



131 Morse Street
Foxborough, Massachusetts

Phase I Initial Site Investigation, Tier Classification, and Phase II Conceptual Scope of Work

Massachusetts Electric Company d/b/a
National Grid

February 2022

Tighe&Bond

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Section 1

Introduction

In accordance with the Massachusetts Contingency Plan (MCP, 310 CMR 40.0000), Tighe & Bond has prepared this Phase I Initial Site Investigation (Phase I ISI) and Tier Classification Submittal on behalf of Massachusetts Electric Company d/b/a National Grid (MEC) for the Disposal Site associated with Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 4-28528, located at 131 Morse Street in Foxborough, Massachusetts.

Tighe & Bond has prepared this Phase I ISI and Tier Classification report on behalf of:

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This Phase I ISI and Tier Classification report has been prepared in accordance with 310 CMR 40.0480 and 40.0500, respectively. A Tier Classification transmittal form (BWSC-107) is being submitted concurrently via MassDEP's online filing system, eDEP.

The location of the Site is shown on the provided Site Location Map (Figure 1), the Massachusetts Geographic Information (MassGIS) Priority Resource Map (Figure 2), the Orthophotograph (Figure 3), Sluiceway Boom Locations (Figure 4), and Site Plan (Figure 5) included in Appendix A.

Section 2

General Disposal Site Information

2.1 MassDEP Release Tracking Number

At approximately 7:30 AM on October 4, 2020, the Foxborough Fire Department notified MassDEP of a release of mineral oil dielectric fluid (MODF) from a pad-mounted transformer located at 131 Morse Street in Foxborough. The sudden release of MODF occurred after a motor vehicle accident along Morse Street caused damage to the electrical infrastructure at the 131 Morse Street mill complex, resulting in an electrical fire at the subject pad-mounted transformer and adjacent building. MODF was released to the ground surface surrounding the transformer and to a covered sluiceway located beneath the building. In response, MassDEP issued RTN 4-28528 and orally approved response actions including MODF recovery, soil excavation, and application of absorbent material to address the release under an Immediate Response Action (IRA).

Initial IRA assessment activities determined the polychlorinated biphenyl (PCB) concentration of the MODF to be less than 2 parts per million based on laboratory analysis and an estimated 130 gallons were released. A Release Notification Form (RNF) was filed on December 3, 2020 for the sudden release and MassDEP issued a Notice of Responsibility (NOR) on October 14, 2020.

2.2 Property Address, Geographical Location & Site Description

The property on which the release occurred is identified by the Town of Foxborough Assessor's Office as Lot 7 on Map 149. The property is owned by CJW Realty LLC and is located within the central area of a mill complex, which consists of six parcels, collectively known as 131 Morse Street.

The geographical and Universal Transverse Mercator (UTM) coordinates of the Disposal Site are as follows:

| | |
|---------------------------|--|
| UTM Coordinates: | Zone 19 316,737 meters (m) Easting 4,657,236 m Northing |
| Geographical Coordinates: | 42° 02' 44.988" north latitude 71° 12' 51.876" west longitude |

According to the MassGIS database, the Disposal Site is located at an elevation of approximately 177 feet above Mean Sea Level (MSL). Residential properties are located to the northeast, south, and west of the 131 Morse Street mill complex.

The building, immediately north of the damaged transformer, was heavily damaged by the fire on October 4, 2020 and has not been occupied since the fire. Prior to the fire, the building was occupied by a business known as Duke's Place, which included the repair and/or restoration of motor vehicles. The majority of the Site, not occupied by the building, is covered with concrete at ground surface or occupied by the sluiceway or

stream channel. Refer to the Figure 3 for the location of the Disposal Site within the 131 Morse Street mill complex.

2.3 Disposal Site Maps

A Site Location Map is included as Figure 1. A MassGIS Priority Resource Map, showing surrounding resource areas, is included as Figure 2. An orthophotograph, depicting general Site features, is included as Figure 3. A Sluiceway Boom Location, showing Site features such as the locations of booms deployed, holes observed within the top of the covered sluiceway at the Site, and locations of surface water samples collected, is included as Figure 4. A Site Plan, showing pertinent Site features including the locations of soil and groundwater samples collected at the Site, is included as Figure 5. The location of groundwater monitoring wells and the groundwater elevations are shown on the Groundwater Elevation Map provided as Figure 6.

2.4 On-Site Workers

The building immediately abutting the former pad-mounted transformer to the north was damaged by the fire and has not been occupied since. Therefore, there are no workers associated with the building other than the building owner. The abutting mill building is connected to several other mill structures, most of which appear to be vacant. Due to the presence of the Disposal Site within a larger industrial complex, it is possible that adult workers of the occupied portions of the complex may be in the vicinity of the Disposal Site periodically when walking about the complex. For purposes of this assessment, it is assumed that no more than 10 on-site workers are present in the vicinity of the Disposal Site at any given time.

2.5 Residential Population

Based on the 2020 United States Census data, the population of Foxborough is approximately 16,865 people. It is estimated that approximately 500 people live within a 0.5-mile radius of the Site.

2.6 Surrounding Land Use

2.6.1 Surrounding Land Use – General

Land use within the mill complex at 131 Morse Street includes a sheet-metal fabricator, an auto salvage yard, a wood furniture factory and show room, and an archery range. The closest residential dwelling is located approximately 550 feet northeast of the Disposal Site. Vacant land is located north of the mill complex. Massachusetts Bay Transit Authority (MBTA) railroad tracks are located east of the mill complex. Industrial/commercial businesses are located beyond the railroad tracks, including a commercial shipping center and several towing and automotive repair businesses.

2.6.2 Institutions

There are no schools, daycares, or institutions, as defined in 310 CMR 40.0006, located within 500 feet of the Disposal Site.

2.7 Priority Natural Resource Areas

Based on Site reconnaissance and a review of the MassGIS Priority Resource Map (Figure 2), the following resource areas have been identified within one-half mile (2,640 feet) of the Site.

- An unnamed stream flows through a sluiceway which bisects the Site, connecting Glue Factory Pond to the Rumford River;
- Glue Factory Pond (a MassDEP Open Water) is located approximately 150 feet east/northeast of the Site;
- MassDEP Inland Wetlands, associated with the Rumford River, are located approximately 270 feet southwest of the Site;
- The closest Protected and Recreational Open Space is located approximately 310 feet west/southwest of the Site;
- A Medium-yield potentially productive aquifer is located approximately 700 feet northeast of the Site;
- An Area of Critical Environmental Concern (ACEC) is located approximately 1,000 feet east of the Site;
- Natural Heritage & Endangered Species Program (NHESP) potential vernal pools are located approximately 1,000 feet west and northwest of the Site; and
- A MassDEP Approved Wellhead Protection Area, Zone II, is located approximately 1,200 feet east of the Site.

There are no known drinking water supplies located within 500 feet of the Disposal Site. According to the Foxborough Water & Sewer Department, the residential properties to the west of the Site are serviced with municipal water. Additionally, the mill complex at 131 Morse Street is reportedly serviced by the Mansfield Water Department. The Mansfield Town line is located approximately 800 feet southeast of the Disposal Site and 200 feet southeast of the mill complex. According to the Mansfield Water Department, this portion of Mansfield is serviced with municipal water.

According to the Massachusetts Energy & Environmental Affairs (EEA) Data Portal for Well Drilling, the closest known domestic drinking water well is located at 4 Belcher Lane, which is located approximately 2,340 feet west of the Disposal Site. The building at this address is a residential dwelling.

Based on this information, the Site is not located within a Current Drinking Water Source Area or a Potential Drinking Water Source Area.

Section 3

Disposal Site History

Previous uses of the Disposal Site and surrounding area are presented in the following section. This information is based upon a review of historic aerial photographs, search of databases maintained by state and federal agencies, and general knowledge gained during site assessment activities.

3.1 Owner/Operator and Operations History

According to the Town of Foxborough Assessor's Office, the property upon which the Disposal Site is located is identified as Lot 7 on Map 149 and is approximately 1.19 acres in size. Based on information provided on the property field card, the existing building on the property was constructed circa 1920. Although the existing building only dates back to 1920 based on records available for review, the Mansfield Bleachery and prior industrial operations at the mill complex date back to at least 1890, as further detailed below.

The current owner of the property is CJW Realty LLC. CJW Realty LLC purchased the property from ELJO Realty Corporation on April 21, 2006. According to the property field card, ELJO Realty Corporation owned the property from 1991 through 2006. According to information obtained from the Norfolk County Registry of Deeds, Eliot B. Kraft and Joseph Neipris, individually and as Trustees under a Declaration of Trust of Krane Realty Trust, owned the property from 1969 to 1991. According to a 1987 Phase II Investigation Report prepared by Geotechnical Engineers Inc. (GEI) for Summit Casting, the property was operated as a plastics reclaiming company for at least a portion of the time that it was owned by Mr. Neipris. Prior to 1969, the Site was part of the surrounding mill complex prior to subdivision and was part of industrial operations by the Mansfield Finishing Co., Inc. and Mansfield Bleachery.

The exact dates of operation of the Mansfield Bleachery at the 131 Morse Street mill complex are not clear based on varied dates provided in the information reviewed by Tighe & Bond; however, the operations of Mansfield Bleachery appear to have begun in the late 1800s and carried through to the latter half of the 1900s. The following is a brief summary of the information reviewed by Tighe & Bond.

- The Mansfield Bleachery is listed at Morse Street in 1876 according to the Massachusetts Cultural Resource Information System (MACRIS).
- A Phase II Comprehensive Site Assessment (CSA) prepared by Groundwater Technology, Inc. (GTI) in May 1992 indicated that prior to operation of the Mansfield Bleachery around 1890, a glue factory was operated at the mill complex.
- According to historical environmental reports for disposal sites at the mill complex, the Mansfield Bleachery began operations at the mill complex around 1890.
- According to filings with the Secretary of the Commonwealth of Massachusetts, Mansfield Bleachery was registered with the Commonwealth on October 30, 1909 and withdrew its registration on December 27, 1982.

Historical aerial photographs reviewed online through publicly available sources date back to 1961 and show the mill complex in the approximate present-day alignment, including the mill building adjacent to the former transformer and other buildings within the complex. Historical topographic maps reviewed online through publicly available sources date back to 1894. Present-day Glue Factory Pond is shown on all of the historical topographic maps. The mill complex is first depicted on the 1936 topographic map and includes the building adjacent to the former transformer.

3.2 Release History at 131 Morse Street Parcels

The following release history is associated with the 131 Morse Street address. The information was obtained from environmental reports and correspondences reviewed on the Massachusetts Energy & Environmental Affairs (EEA) Data Portal search for Waste Site & Reportable Releases and is summarized in the subsections below. Based on a review of available mapping for each release, it is unclear if any of these releases included portions of the properties upon which the Disposal Site is located. Where possible, Tighe & Bond has provided location descriptions in relation to the Disposal Site.

3.2.1 Rumford River Oil Spills (1971 and 1973)

References pertaining to oil releases to the Rumford River in 1971 and 1973 were identified during a review of documents filed under RTN 4-0000255 (discussed in more detail in Section 3.2.2 below). According to the documents, a fire on November 9, 1973 resulted in the release of No. 6 fuel oil to floor drains within the building of the Mansfield Bleachery Industrial Complex, which ultimately discharge to the Rumford River. According to a December 12, 1973 letter from Massachusetts Department of Environmental Quality Engineering (MassDEQE, the predecessor to the MassDEP) to the Massachusetts State Fire Marshal, a fire also broke out at the same complex two years prior (1971), and resulted in a release of oil to the Rumford River. Both releases were estimated to be between 300 and 500 gallons and resulted in an "enormous slick" with related downstream damage. No other documentation related to the clean-up of these releases to the Rumford River were identified.

3.2.2 RTN 4-0000255

A disposal site was identified at 131 Morse Street on July 15, 1986 due to the observation of oil seeping through the northern basement wall of the "Summit Casting" facility building. MassDEP assigned RTN 4-0000255 to the release condition. Summit Casting Company occupied a portion of the former Mansfield Bleachery building located on Lot 8 on Map 149, which abuts Lot 7 (upon which the Disposal Site subject to this Phase I ISI is located) to the east.

According to the Phase II Investigation report, dated October 19, 1987, Mr. John Thibeault, of Summit Casting attributed the source of the seep to one of two, 20,000-gallon No. 6 fuel oil underground storage tanks (USTs) located about 65 feet north of the building. According to Mr. Thibeault, the seep existed since the building was purchased by Summit Casting in 1978 and the oil seeping through the building wall is "carried through a series of french drains" to the central portion of the building, where it discharges to the sluiceway connecting Glue Factory Pond and the Rumford River.

According to the Phase II Investigation report, dated October 19, 1987, the two 20,000-gallon USTs were removed on October 20, 1986 under the observation of GEI. One of the tanks, labeled as T2 by GEI, was noted as appearing rusted, but with no visible

perforations. The other tank, labeled as T1 by GEI, was reportedly “severely” corroded with “extensive perforation” observed. In addition, a significant amount of floating product was observed beneath T1. The Phase II Investigation report prepared by GEI stated that investigations “indicate that the 20,000-gallon fuel oil tank was a source of oil contamination in downgradient soil and groundwater both on the site and abutting properties.” Reportedly, access to “the immediately downgradient property” (upon which the subject Disposal Site is located) was not granted at the time of the 1986/1987 investigations and the extent of the release was not properly delineated.

Historical records suggest that four additional 20,000-gallon oil USTs were present north of the building. GEI wrote in their 1987 Phase II Investigation report that Mr. Schmidt, of Summit Casting, believed the tanks were removed prior to Summit Casting occupying the site. According to a March 2, 1950 plan reviewed by GEI, which was summarized in their 1987 Phase II Investigation report and provided as an attachment to the report, six sulfuric acid tanks (two 1,500-gallon and four 3,000-gallon) were located on Lot 7 (upon which the subject Disposal Site is located), to the north of the building. In addition, two clarifying basins, one trickling filter, one sludge drying bed, one alkali waste holding tank, and two sulfuric acid waste holding tanks were located approximately 300 feet northwest of the Summit Casting Property and were associated with an on-site wastewater treatment system for the former Mansfield Bleachery. A cross-section of the mill complex buildings shown on the 1950 plan indicates that the building on Lot 7 (upon which the subject Disposal Site is located) contained bleaching equipment.

A review of MassDEP files by GEI in 1986, which was summarized in their 1987 Phase II Investigation report, identified documentation showing a history of illegal hazardous waste and oil disposal, as well as repeated spills at the bleachery site prior to purchase by Summit Casting Company. A majority of the historical dumping is reported to have occurred on the Lot north of Lot 7 (upon which the subject Disposal Site is located). Based on a review of historical environmental reports, the dumping areas may be hydrologically upgradient of the subject Disposal Site. In addition to the historical dumping identified by GEI, a Foxboro Conservation Commission representative was reported to have visited the bleachery complex on an unknown date in 1978 or 1979 and identified a large pit at the base of the bleachery complex smokestack containing heavy #6 fuel oil. The former smokestack was located on the north side of the building on Lot 7 (upon which the subject Disposal Site is located).

Test pit logs from 1986, provided in the 1987 Phase II Investigation report, indicate a layer of “heavy petroleum staining” between four and 7.5 feet below ground surface (bgs) in test pits located on Lot 7 (upon which the subject Disposal Site is located), north of the building. Tighe & Bond observed potential weathered petroleum staining in two soil borings, from approximately five to seven feet bgs, during subsurface explorations completed in the vicinity of the former transformer in December 2021, which is further discussed in Section 4.8.

Summit Casting, the potentially responsible party for the disposal site, and MassDEP entered into an Administrative Consent Order (ACO) in November 2001, which required the submission of a Tier I Permit Extension Application, a Phase II Scope of Work, and applicable MCP phase reporting. In January 2003, a Phase IV Remedy Implementation Plan prepared by Resource Control Associates, Inc. (RCA) was submitted to MassDEP. The report detailed the removal of petroleum-contaminated soil and recovery of non-aqueous phase liquid (NAPL) from the site as the planned comprehensive remedial alternative.

Review of information on the EEA database did not identify a clear resolution to the ACO beyond the submittal of the Phase IV.

Since the filing of the 2003 Phase IV, at least two Notices of Noncompliance (NONs) have been issued by MassDEP for the disposal site, including one on March 5, 2019 and one on May 1, 2019. The NON issued by MassDEP on May 1, 2019 indicates the Site had been granted Financial Inability Status during the period of April 15, 2004 through January 26, 2010. Since the expiration of Financial Inability Status, no reports or other documentation have been submitted to MassDEP.

3.2.3 RTN 4-0000572

Historical parcels 4934 (present day Lot 7, upon which the subject Disposal Site is located), 5107 (present day Lot 6, abutting Lot 7 to the north/northwest), 5114 (present day Lot 4, abutting Lot 7 to the southwest), and 5115 (present day Lot 5, abutting Lot 7 to the west) were listed as a Location to be Investigated (LTBI) by MassDEP on August 2, 1993 due to their former use as the Mansfield Bleachery. A 1991 investigation by the United States Environmental Protection Agency (USEPA) identified various areas of concern (AOCs) on each parcel; however, a copy of this report could not be obtained during Tighe & Bond's research. As part of the LTBI listing, either a Response Action Outcome (RAO) or Tier Classification Submittal was required by August 2, 1997.

MassDEP issued a NON to ELJO Realty Corp on March 22, 2000 for all four parcels. Three NONs were issued on July 12, 2007 due to the lack of required reporting submitted to MassDEP in regard to the disposal site. One NON was issued to Mr. Christopher Totman, of CJW Realty, LLC, for Parcel 4934 (present-day Lot 7), one NON was issued to Mr. Irwin L. Kamen and Mrs. Marie A. Kamen for Parcels 5107 and 5115, and one NON was issued to Mr. Ernest N. Whitaker, of Teltron Engineering, Inc., for Parcel 5114.

A Response Action Outcome – Partial (RAO-P) was submitted to MassDEP in June 2009 for Parcel 5114. According to the RAO-P, three AOCs were identified on Parcel 5114, including the former drum storage area, the former gravel-lined waste dye bed, and the former tank area. During subsurface investigations in 2007, groundwater was encountered at depths ranging from 2.71 to 3.16 feet bgs. The results of soil and groundwater testing did not identify contaminants of concern (COCs) above applicable MCP Method 1 criteria in either the former drum storage area or the former tank area. As such, the RAO-P was filed for these two AOCs while the third AOC, the former gravel-lined waste dye beds, remained under further assessment. The RAO-P was determined to be a Class B-1, as no remediation was required in these areas and concentrations of contaminants were consistent with background.

A Partial Permanent Solution Statement with No Conditions (PPSSNC) was submitted to MassDEP on September 1, 2016 for Parcel 5114. The PPSSNC was submitted for the remaining AOC at Parcel 5114, the former gravel-lined waste dye beds. During subsurface investigations around the former gravel-lined waste dye beds, polycyclic aromatic hydrocarbons (PAHs) were identified in soil, from five to seven feet bgs, in excess of the applicable MCP Method 1 standards. Groundwater impacts were not identified in this area. Surface water sampling identified the presence of total metals in surface water above applicable bench mark concentrations and sediment sampling identified PAHs and total metals in excess of the applicable bench mark concentrations. However, based on the location of Parcel 5114 downstream of other mill buildings at the former Mansfield Bleachery complex, the PPSSNC stated that these exceedances in surface water and

sediment may not be attributable to former dye operations at that parcel and could be the result of upstream releases. Using a Method 3 Risk Assessment, the PPSSNC concluded that a condition of No Significant Risk existed at the parcel.

As summarized above, it appears that assessment and remediation activities for RTN 4-0000572 have been limited to Parcel 5114. The RTN is still open according to the Searchable Sites database, suggesting that AOCs remain unaddressed on the remaining three parcels (4934, 5107, and 5115). The AOCs on each of the three remaining parcels are unknown. As one of these parcels (historical lot 4934, present day Lot 7) is the location upon which the subject Disposal Site is located, influence from this historical disposal site on the subject Disposal Site cannot be ruled out.

3.2.4 RTN 4-0017076

A RNF was submitted to MassDEP on April 18, 2002 for a 120-day reporting condition associated with the presence of elevator hydraulic oil in soil above the applicable MCP reportable concentrations. MassDEP assigned RTN 4-0017076 to the release condition and issued a NOR to Summit Casting, as a potentially responsible party, on June 18, 2002. Summit Casting Company occupied Lot 8 on Map 149, which abuts Lot 7 (upon which the Disposal Site subject to this Phase I ISI is located) to the east. The disposal site was subsequently linked to RTN 4-0000255 and RTN 4-0017076 was closed.

3.2.5 RTN 4-0018805

A sudden release of non-PCB MODF was reported to MassDEP on December 1, 2004 from three utility pole-mounted transformers. The utility pole and bounds of the disposal site are located on Lot 10 on Map 149, which is located approximately 250 feet southeast of Lot 7 (upon which the Disposal Site subject to this Phase I ISI is located). Each transformer contained 18 gallons of MODF and two of the transformers were damaged upon impact with the ground surface. MassDEP issued RTN 4-0018805 to the release and approved IRAs including the removal of up to 20 cubic yards (CY) of MODF-contaminated soils.

During IRAs completed by CHES, two areas of impacted soil were removed, including a 35 foot by 11 foot area to a maximum depth of three feet bgs and a 25 foot by 3 foot area to a maximum depth of one-foot bgs. A total of 15 CY of impacted soil and spent granular absorbents were generated. Post-excavation soil samples were below applicable MCP Method 1 standards.

A Class A-1 Response Action Outcome (RAO), concluding that a condition of No Significant Risk exists at the Disposal Site at concentrations of contaminants have been reduced to background, was filed with the MassDEP for the release in November 2005. Based on the regulatory closure status and location of this release in relation to the subject Disposal Site, there is not expected to be a significant impact to the Disposal Site from this release.

3.3 Source of the Disposal Site Release

The cause of the release subject to this Phase I ISI is attributed to the former pad-mounted transformer that was present at the Site. The sudden release of MODF occurred after a motor vehicle accident along Morse Street caused damage to the electrical infrastructure at the 131 Morse Street mill complex, resulting in an electrical fire at the subject pad-mounted transformer and adjacent building. MODF was released to the ground surface surrounding the transformer. While responding to the fire, the FFD applied copious amounts of water to the building and transformer. As a result, MODF released from the

transformer during the fire was subsequently carried by the water to the underlying sluiceway via several openings in the top of the concrete-covered structure.

3.4 Surrounding Property Release History

Tighe & Bond reviewed the Massachusetts EEA data portal for disposal sites at nearby properties that could potentially have an adverse environmental impact on the subject Disposal Site. In addition to those disposal sites identified within the former Mansfield Bleachery mill complex previously discussed in Section 3.2, Tighe & Bond identified two disposal sites located north of the subject Disposal Site in the Town of Foxborough, as well as six disposal sites located south/southeast of the subject Disposal Site, within the Town of Mansfield. None of these disposal sites are located within a 500-foot radius of the subject Disposal Site.

Tighe & Bond conducted a cursory review of the identified disposal sites and has summarized a select few deemed most relevant (based on distance, anticipated direction related to groundwater flow, type of contaminant, impacted media, regulatory status, etc.) in the table below:

| Location | RTN | Summary of Environmental Condition |
|--|------------------|--|
| Evelyn Porter Estate Cocasset Street Foxborough, MA ~2,500 feet Northwest Upgradient | RTN 4-0000792 | <ul style="list-style-type: none"> • • The site was previously comprised of detention basins that has been used as septic waste disposal areas by the Bentley F. Porter Pumping and Disposal Company from approximately 1938 to 1988 • A volatile organic compound (VOC) plume was identified in groundwater • Under USEPA supervision, the highest concentrations of contaminants were removed between 2002 and 2003 and a temporary cap was constructed over the area. • An ACO between MassDEP and the property owner (at the time) was executed on 12/30/2005 • A NON was issued on 1/4/2006 and then again on 1/22/2020 • Active |
| | RTN 4-0012178 | <ul style="list-style-type: none"> • Arsenic and cadmium were identified in the upper six inches of soil at levels that could pose an Imminent Hazard (IH) on 5/14/1996 • Linked to primary RTN 4-0000792 |
| 751 North Main Street Mansfield, MA ~700 feet Southeast Downgradient | RTN 4-0000107 | <ul style="list-style-type: none"> • A release identified by the presence of plasticizer phthalates and various oil components in soil was reported to MassDEQE on 12/12/1986 • A Class C RAO, which is a temporary solution, was filed for the release in January 1999 • The facility, a former manufacturer of polyvinyl chloride (PVC) products, was decommissioned in 2001 • Several Activity and Use Limitations (AULs) were filed with the Bristol County Registry of Deeds on 6/13/2003, some for specific areas of the site and one for the entire site. The AUL restricts use of the site for residential or institutional (school, daycare, or nursery) use • Approximately 1,997 CY of impacted soil was removed from the site • On-going activities include quarterly inspection and monitoring of NAPL, semi-annual inspections of AUL areas, and inspection of site security and capping features • Active: A Class C RAO has been recorded for the disposal site |
| | RTN 4-0013235 | <ul style="list-style-type: none"> • 12-inches of NAPL, from a liquid plasticizer, was measured in a monitoring well on site on 7/21/1997 • NAPL was bailed from the well using a dedicated bailer • Closed: RTN Closed, linked to primary RTN 4-0000107 |
| | RTN 4-0019055 | <ul style="list-style-type: none"> • A Condition of Substantial Release Migration (SRM) was identified on April 29, 2005 due to concentrations of antimony detected in groundwater which may impact a nearby wetland within a 1-year timeframe • Fill material, the suspected source of antimony in groundwater, was excavated in 2006. The excavation area was fenced in to restrict access. • Quarterly inspections of the site are conducted to ensure conditions have not changed. • Active: A Class C-1 RAO was filed for the release on June 22, 2009 and is undergoing operation, maintenance, and monitoring activities. |

Based on the information summarized above, it is unlikely that the release conditions associated with the surrounding properties would have affected conditions at the Disposal Site.

3.5 History of Oil and/or Hazardous Material Use and Storage

Tighe & Bond conducted a review of the MassDEP UST facility database to identify potential USTs located on or near the subject Disposal Site. Searches in the database for the address, former businesses at the mill complex (including Mansfield Bleachery and Summit Casting), and for the Town of Foxborough did not locate any USTs that were determined to be on or adjacent to the Disposal Site.

Historical environmental reports, as previously summarized in Section 3.2, identified a variety of storage tanks (above and underground) at the mill complex. The following is a summary of storage tanks identified in historical environmental reports:

- Six 20,000-gallon fuel oil tanks were historically located on Lot 8, which abuts the Disposal Site property to the east. These six USTs were located to the north of the mill buildings. All six USTs have reportedly been closed, the last two occurring in 1986 under the observation of GEI.
- Six sulfuric acid tanks (two 1,500-gallon and four 3,000-gallon) were located on the Disposal Site property, north of the mill building. Closure records for these tanks were not identified during the records review for this Phase I ISI.
- A 500-gallon gasoline tank was formerly located southeast of the Disposal Site. Closure records for this tank were not identified during the records review for this Phase I ISI.
- Three fuel oil tanks were depicted in the northeast corner of the building abutting the Disposal Site on a GEI Site Plan from the 1980s. The size of these tanks was not specified. Closure records for these tanks were not identified during the records review for this Phase I ISI.
- Two alkali waste holding tanks and two sulphuric acid waste holding tanks, sizes of which were not specified, were located on the parcel north of the Disposal Site property.
- Two abandoned above ground storage tanks were identified on a GEI Site Plan from the 1980s; however, the size and former contents of these tanks were not specified.

In addition to the identified storage tanks, two areas of "abandoned 55-gallon drums" were identified in the 1987 Phase II Investigation report at the mill complex, including one to the southwest of the Disposal Site and one to the northeast. A "chemical dump" area was identified to the north of the Disposal Site during environmental inspections of the mill complex in the 1970s and 1980s.

The identification of current use and storage of OHM at the Disposal Site was limited to visual observation on October 4, 2020 as the building was subsequently condemned by the Foxborough Building Department due to the fire. Observations on October 4 were limited due to the structural and water damage present in the interior space following the fire. Observations made within visible areas included the presence of welding gases, a number of 5-gallon containers of various oils and greases, and small containers of multi-purpose household cleaner products.

3.6 Waste Management History

Tighe & Bond reviewed the USEPA Enforcement and Compliance History Online (ECHO) database for information pertaining to waste management at the Disposal Site. The business most recently operated within the adjacent building, Duke's Place, was not identified in the database search.

Interstate Refrigerant Recovery, Inc., with an address of 131 Morse Street, was identified in the USEPA ECHO database as a RCRA hazardous waste generator (ID MAR000548750). Based on available documentation, the location of this business within the mill complex is unknown. However, according to the database listings, there are no violations or enforcement actions associated with this business.

Teltron Engineering Inc. (Teltron), also with an address of 131 Morse Street, was identified in the USEPA ECHO database as a very small quantity generator (VSQG) (ID MAR000592790). Teltron is located on historical parcel 5114 (present day Lot 4), located southwest of the Disposal Site. According to the database listing, there are no violations or enforcement actions associated with Teltron in the last several years. Wastes generated by Teltron include ignitable waste, arsenic, barium, cadmium, chromium, lead, selenium, silver, and methyl ethyl ketone.

3.7 Environmental Permits and Compliance History

As stated in Section 3.6, Duke's Place was not listed in the USEPA ECHO database; therefore, there are no known environmental permits or documented compliance history associated with the property upon which the Disposal Site is located.

Summit Casting Corporation, the eastern abutter to the Disposal Site, has a Clean Air Act Minor Operating Permit (MA0000002512000252). A Source Registration was submitted on January 2, 1987. Notices of Violation (NOVs) were issued by the Commonwealth of Massachusetts on May 20, 1987 and February 3, 2006. Specific details about the NOVs were not included in the USEPA ECHO database. No other violations were reported in the USEPA ECHO database. No other permits or compliance history were noted for businesses associated with the 131 Morse Street address.

3.8 Potentially Responsible Party

The PRP for the Disposal Site is Massachusetts Electric Company d/b/a National Grid. Contact information is as follows:

Massachusetts Electric Company d/b/a National Grid
Ms. Deborah Blanch
19 Phillips Lane
Hanover, Massachusetts 02339
T (508) 897-5500

Section 4

Assessment and Remediation Activities

4.1 Initial Response Actions

On October 4, 2020, at 7:30 AM, the FFD notified MassDEP of a sudden release of MODF from a pad-mounted transformer involved in an electrical fire. The MODF was released to the area surrounding the transformer and to a covered sluiceway that runs under the adjacent building. The sluiceway eventually discharges to a stream and ultimately to the Rumford River. Upon discovery of the impact to the sluiceway, the FFD placed a boom within the sluiceway, downstream of the release location.

Tighe & Bond personnel responded to the release, arriving at approximately 10:30 AM. Clean Harbors Environmental Services (CHES), of Weymouth, Massachusetts, arrived on-site at approximately 12:45 PM to initiate remediation activities. Mr. Robert Murphy, of MassDEP, and Mr. William Howard, of MEC, also responded to the release. Upon arrival, the damaged transformer could not be immediately assessed due to elevated temperatures resulting from the fire.

After FFD personnel deemed the temperatures of the transformer reservoir safe to handle, CHES pumped approximately 50 gallons of MODF from the transformer reservoir. Information obtained from the manufacturer's metal nameplate affixed within the transformer cabinet is listed below:

Manufacturer: Westinghouse

Serial Number: 83JL073026

Oil Capacity: Not Listed

Rating: 300 kVa

PCB Status: Filled with Mineral Oil That Contained Less than 50 PPM PCB at Time of Manufacture

Although the transformer did not have a listed capacity on the nameplate, based on the dimensions of the transformer reservoir, the maximum capacity of MODF was estimated to be 180 gallons. Based on information obtained from MEC and the Foxborough Fire Department, it is likely that a significant volume of the MODF was incinerated in the fire rather than released to the environment. Therefore, it is estimated that a maximum of 100 to 130 gallons of MODF were released from the transformer during the electrical fire.

Although the transformer nameplate indicated that the PCB concentration of the MODF was less than 50 ppm PCBs, a sample of the MODF was field screened for PCBs using a Dexsil Clor-N-Oil kit to verify this information. The results of the field screening also indicated the PCB content of the MODF was less than 50 ppm. Additionally, a sample of MODF was collected from the transformer and was submitted for laboratory analysis of PCBs. Laboratory analytical results of the oil sample indicated that the PCB content was less than 2 ppm. A copy of the laboratory analytical report is included in Appendix C. MEC was unable to remove the transformer from the pad on October 4, 2020 due to elevated temperatures of the transformer shell.

An initial inspection of the release area by Tighe & Bond personnel, MassDEP's Robert Murphy, and MEC's William Howard, suggested that the MODF released during the fire was

washed into the sluiceway that runs beneath the transformer pad and adjacent building. Based on this initial assessment, Mr. Murphy provided oral approval of IRA activities including the application of absorbent material (including granular absorbents and sorbent booms), product recovery, removal of up to 25 CY of soil, and assessment activities.

Upon removal of the remaining MODF from the transformer, CHES, with oversight provided by Tighe & Bond, removed MODF impacted soil, debris, and vegetation that surrounded the concrete transformer pad. During the removal activities, it was determined that the soil, debris, and vegetation was underlain by a concrete slab. Therefore, the depth of soil excavation was limited to approximately six inches. After exposing the concrete surface within the release area, liquid degreaser was applied to the concrete and was recovered with a vacuum truck. During the degreasing of the concrete surfaces surrounding the transformer pad, an approximate eight-inch hole was identified approximately ten feet to the south of the transformer pad. Observations of the hole identified a direct pathway to the sluiceway running beneath the transformer and adjacent building.

The extent of impacted soil, debris, and concrete surrounding the transformer were measured to be approximately 46 feet long by 30 feet wide, at the greatest extent. In addition to the surficial impacts in the vicinity of the transformer, sand and debris in front of the building entrance was also removed. As concrete was identified beneath all soil/debris removal areas, no post-excavation soil samples were collected during response actions on October 4, 2020.

In addition to the boom installed by the FFD, CHES installed two additional booms within the sluiceway/stream on October 4, 2020, a second one in close proximity to the release area and one approximately 280 feet downstream from the release area. Refer to Figure 4 for locations of booms.

4.1 Oil Recovery

After the initial deployment of booms on October 4, 2020, CHES returned to the release area on October 6, 2020 to conduct additional recovery efforts from within the sluiceway and stream. CHES personnel utilized oil-absorbent pads and a skimmer to remove foam and a sheen on the surface of the stream that had accumulated upstream of each boom segment. Based on the documented release conditions, this material was assumed to include, in part, residual MODF. After recovery, CHES replaced all of the existing deployed booms with new sorbent booms and added two additional boom segments to further assist in containment of released product. The locations of the deployed boom segments are depicted on Figure 4.

Since the initial recovery activities, CHES, on behalf of MEC has continued to periodically manage the booms in the sluiceway and stream. During each event, CHES utilized skimmers to recover foam and if present, emulsified oil visible sheen that had accumulated behind the boom segments within the sluiceway and stream channel. Following removal of the accumulated material, each boom segment was removed, containerized in steel drums for proper off-Site disposal, and replaced with a new boom segment.

4.2 Surface Water Sampling

On December 9, 2020, Tighe & Bond personnel collected samples of the surface water at three locations within the stream channel. Samples were collected upstream of the release

area, proximate to Glue Factory Pond (SW-1), within the emulsified oil accumulated immediately behind a boom segment (SW-2), and downstream of the furthest downstream boom segment (SW-3), as shown on Figure 4. Samples SW-1 and SW-3 were submitted to ESS Laboratory (ESS) of Cranston, Rhode Island for analysis of EPH carbon ranges. Sample SW-2 was submitted for total petroleum hydrocarbon (TPH) Fingerprint analysis via EPA Method 8100M.

Laboratory analytical results did not reveal EPH hydrocarbon ranges at concentrations above laboratory method detection limits in samples SW-1 and SW-3. Fingerprint analysis of sample SW-2 indicated the sample represented petroleum hydrocarbons within the transformer oil range; however, the report excluded the quantitative TPH result and did not provide further detail on the range of hydrocarbons detected. Surface water analytical results are presented on Table 3 in Appendix B and further summarized in Section 2.4.3. A copy of the laboratory analytical report is included in Appendix C.

4.3 February 2021 Soil Excavation

During the period of February 22 and February 24, 2021, Tighe & Bond was on site to observe CHES remove the concrete transformer pad and MODF-impacted soils underlying the transformer. CHES demolished the contaminated concrete pedestal and pad beneath the transformer location to access contaminated soil. In addition, a segment of the concrete duct-bank encasing the electrical conduits was also removed to facilitate soil removal. The duct-bank runs from the transformer to the nearest utility pole located to the southwest of the transformer as shown on Figure 5. The impacted concrete was transported off-Site for disposal/recycling as remediation waste.

Upon removal of the transformer pad, CHES excavated MODF-impacted soil in the vicinity of the former transformer using hand tools and vacuum-excitation methods. During soil excavation, the electric cables and PVC conduits leading to the former transformer were cut and removed to facilitate soil excavation. The extent of soil excavation was limited due to the proximity of the adjacent concrete sluiceway to the south and the building foundation to the north. The final excavation dimensions were approximately 6.5 feet long by five feet wide to a maximum depth of 2.5 feet bgs.

An estimated 10 CY of oily solids (concrete and soil) were generated from the Site as remediation waste for disposal. At the completion of the excavation activities, Tighe & Bond collected five soil samples (PX-2 through PX-6) from the sidewalls and base of the excavation area. An additional sample (PX-1) was collected from an area three feet to the west of the excavation through an area of cracked concrete pavement. Each of the six samples were field screened for TPH with a Dexsil PetroFLAG[®] analyzer (PetroFLAG[®]). Results of the PetroFLAG[®] field-screening are included on Table 1 in Appendix B and indicated elevated TPH concentrations at PX-1, PX-4, PX-5, and PX-6.

Following the completion of soil removal activities on February 24, 2021, six confirmatory soil samples (PX-1 through PX-6) were collected and submitted to ESS for analysis of EPH carbon ranges. Soil analytical results are presented on Table 1 in Appendix B and indicate soil samples from the bottom, south sidewall, and west sidewall (PX-4, PX-5, and PX-6) revealed elevated concentrations of EPH carbon ranges, in excess of the applicable MCP Method 1 S-2/GW-2 and S-2/GW-3 standards. As indicated above, the extent of the excavation was limited due to safety concerns associated with the structural integrity of the building and the sluiceway. Post excavation soil sample results represent end-point

conditions upon completion of the limited excavation activities. These results indicated that additional assessment and/or remediation was necessary in the vicinity of the excavation. A copy of the laboratory analytical report is included in Appendix C.

During soil excavation activities, two 6-inch diameter pipes were observed within the excavation area. The pipes were located at a depth of approximately three to four feet bgs and were oriented perpendicular to the building foundation and sluiceway. The pipes were observed to be intact (in the areas exposed during excavation) with no major cracks or damage and were observed to penetrate the wall of the sluiceway. Although no liquid was observed entering the sluiceway from either pipe during the period of February 22 through February 24, 2021, the pipes are believed to be drain lines connecting one or more floor drains within the adjacent building to the sluiceway.

4.4 Structural Stability Analysis

On March 9, 2021, McKenzie Engineering Company, Inc. (McKenzie) was contracted by MEC to conduct a preliminary structural analysis of the adjacent building. Tighe & Bond and CHES were present during the Site walk completed by McKenzie. McKenzie observed portions of the sluiceway visible from ground surface and observed the exterior of the building in the area abutting the transformer. McKenzie concluded that structural stabilization methods to the wall system abutting the transformer were necessary to complete additional excavation in the vicinity of the release. A copy of the preliminary assessment documentation prepared by McKenzie Engineering was included in the IRA Status Report submitted on August 3, 2021.

4.5 MODF Fingerprint and Petroleum Forensic Analysis

During the period of March and April 2021, Tighe & Bond collected samples of the observed emulsified oil that had accumulated at the downstream boom location. The samples were submitted to ESS along with a previously collected soil sample (PX-5) for petroleum hydrocarbon fingerprint analysis via EPA Method 8100M and/or saturated hydrocarbons via EPA Method 8015M. The objective of the petroleum forensics analyses was to qualitatively identify the oil within the samples and compare the petroleum characteristics of the emulsified oil collected from the stream to the petroleum characteristics of the soil sample that was impacted by the MODF release.

The results of the evaluation indicated that the emulsified oil contained a mixture of petroleum product eluting in the mid to heavy molecular weight ranges indicative of waste oils, lubricating oils, transformer oils and motor oils. However, comparison of the emulsified oil sample to the soil sample indicated the petroleum hydrocarbon composition within the soil sample appears to be more representative of MODF than that of the emulsified oil sample collected from the stream. Based on this information, it is likely that an alternate source of oil is contributing to the emulsified oil observed within the stream channel. The laboratory analytical reports are included in Appendix C.

4.6 Sluiceway Investigation

On June 10, 2021, Frogmen Divers & Marine Service, Inc. (FDMS) of Sandwich, Massachusetts completed a visual investigation of the sluiceway. The objective of the sluiceway investigation was to document conditions within the sluiceway and identify

potential migration pathways to the surface water body. General observations documented by FDMS are included below.

- Sections of the sluiceway structure abutting the transformer were observed to be in poor condition with deteriorated, crumbling concrete, as well upstream cave-ins.
- Light staining indicative of potential oil impact was observed on the walls and ceiling of the sluiceway directly abutting the transformer location. No visual evidence of active migration of MODF to the sluiceway was observed.
- Heavy, dark petroleum staining was observed on the interior concrete walls slightly above the observed water line within the remainder of the sluiceway.
- Numerous drainpipes were observed leading from the direction of the adjacent building into the sluiceway. The observed drainpipes near the release area and upstream of the release area were scoped with a camera. Generally, within the first 5 to 15 feet from the sluiceway walls, the pipes contained debris which prevented the camera from being advanced further. As such, the point of origination of the pipes could not be ascertained.

In addition to these observations, an absorbent boom section was placed in the sluiceway upstream of the transformer location to qualitatively evaluate background conditions upstream of the release. The upstream boom location has consistently shown visual indications of petroleum staining, as described later in Section 4.9.

4.7 Limited Subsurface Assessment

On December 29, 2021, Tighe & Bond observed Martin GeoEnvironmental, LLC (Martin Geo), of Belchertown, Massachusetts, advanced three borings in the vicinity of the former transformer using vacuum excavation methods and Geoprobe® direct push drilling techniques. Each soil boring location was pre-cleared to a depth of approximately five feet bgs using vacuum excavation. Each boring was then completed to depth with a track-mounted Geoprobe direct-push drill rig. Soils encountered at each location were visually observed and consisted of a mixture of sand and gravel with trace amounts of silt. All three borings were completed as groundwater monitoring wells. Soil borings were advanced to a depth of approximately ten feet bgs, approximately six to seven feet into the groundwater table.

The soil boring locations are shown on Figures 5 and 6 in Appendix A. Soil boring and groundwater monitoring well completion logs are included in Appendix D. As shown on Figures 5 and 6, monitoring wells MW-2 and MW-3 were installed on either side of the former transformer, just at or beyond the extents of the soil removal described in Section 4.2. These locations were selected to delineate the horizontal extent of the potential MODF impact with consideration of physical Site constraints such as the underlying sluiceway and the adjacent structurally compromised building. MW-1 is located on the opposite side of the sluiceway from the former transformer. This location was selected due to the exceedance of EPH ranges in the southern sidewall post excavation (PX-5) soil sample but could not be located immediately outside the bounds of the excavation due to the presence of the sluiceway.

During the advancement of each soil boring, select samples were collected for field-screening with a PetroFLAG® for the presence of TPH. Field screening results are shown

on Table 1 in Appendix B. A total of five samples (B-1 (2.5-5'), B-2 (2.5-5'), B-2 (5-7'), B-3 (2.5-5'), and B-3 (5-7')) were submitted to ESS for analysis of EPH carbon ranges. In addition, one sample, B-3 (5-7'), was submitted for petroleum fingerprint analysis via EPA Method 8100M and one sample, B-3 (2-5'), was submitted for sieve analysis. The results of the sieve analysis identified the soil as brown, well-graded gravel with silt and sand.

As indicated on Table 1 in Appendix B, EPH carbon ranges were detected in three of the five soil samples (B-2 (5-7'), B-3 (2.5-5'), and B-3 (5-7')); at concentrations well below the applicable MCP Method 1 S-2/GW-2 and S-2/GW-3 standards. These data suggest residual MODF impact to soil remaining after excavation activities is limited to the area immediately beneath the former transformer. Laboratory analytical results are summarized in Table 1 in Appendix B and the laboratory analytical reports are included in Appendix C. In addition, petroleum identification performed by the laboratory on sample B-3 (5-7') indicated that the sample contained material eluting in the mid to high molecular weight ranges of the chromatogram. Examples of similar material eluting in these ranges are hydraulic, transformer, motor and lubricating oils. Information obtained from the laboratory indicates that this sample could contain multiple sources of petroleum.

Each boring was completed as a groundwater monitoring well, with nine feet of slotted PVC well screen and one foot of solid PVC riser. The monitoring wells were finished at ground surface with flush-mount road boxes. After installation, each well was developed on December 29, 2021, removing between 20 and 30 gallons from each well.

Tighe & Bond returned to the Site on January 6, 2022 to collect groundwater samples and conduct a wellhead elevation survey. The top of PVC casing at each monitoring well was surveyed for location and elevation relative to a local benchmark with an assigned elevation of 100 feet. Prior to sample collection, each monitoring well was gauged for depth to groundwater and for the presence of light non-aqueous phase liquid (LNAPL). LNAPL was not observed in any of the monitoring wells during these activities. Groundwater samples were collected from monitoring wells MW-1 through MW-3 (inadvertently called BW-1 through BW-3 on the laboratory report), via low-flow sampling techniques and were submitted to ESS for EPH carbon range analysis. The results of the laboratory analysis are included on Table 2 in Appendix B and indicate that EPH carbon ranges were not detected at concentrations above laboratory MRLs. The laboratory analytical report is provided in Appendix C.

Groundwater elevations were calculated based on the data obtained from the wellhead elevation survey and monitoring well gauging activities. Based solely on these data, the localized groundwater flow direction within the well network appears to be to the north. Although site-specific data suggest groundwater flow direction to the north, one of the three wells (MW-1) is separated from the other two (MW-2 and MW-3) by the sluiceway that runs beneath the Site. Based on the measured depth to groundwater and depth of the sluiceway, it is likely that the sluiceway is causing localized influence on groundwater flow direction by acting as a flow boundary between the monitoring wells. A groundwater elevation map depicting the location of the sluiceway with respect to the monitoring wells is included as Figure 6 in Appendix A.

Based on a review of historical environmental reports associated with the mill complex, the groundwater flow direction is to the south/southwest towards the Rumford River. This is generally consistent with the presumption that localized groundwater flow is likely to

follow local topography flow towards the sluiceway/stream, which eventually discharges to the Rumford River. The Rumford River generally flows to the south of the Disposal Site.

4.8 Oil Absorbent Boom Removal

Based on the results of the June 2021 sluiceway assessment, the December 2021 limited subsurface assessment and continued observation of the deployed boom segments, it was determined that the MODF released from the transformer was no longer likely migrating to the sluiceway. The rationale for this determination is provided below:

- In June 2021 light staining was observed on portion of the sluiceway structure in the area of the transformer, but no active MODF migration was observed.
- Well gauging information obtained on January 6, 2022 indicated no LNAPL present in monitoring wells in the immediate release area.
- The groundwater analytical results from the January 6, 2022 sampling event indicated no dissolved phase EPH carbon ranges in groundwater in the immediate release area.
- Visual observations of the downstream boom segments indicated the presence of organic foaming but minimal visual indication of emulsified oil.
- The absorbent boom segments placed upstream of the transformer release were observed to contain apparent petroleum hydrocarbon impact.

Based on these multiple lines of evidence, the boom segments deployed in the sluiceway and stream channel as part of response actions completed under RTN 4-28528 were removed on January 26, 2022. During the boom removal on January 26, 2022, a section of the upgradient boom that exhibited signs of petroleum staining was removed and submitted to ESS for EPH analysis. The sample results indicated the presence of C₁₉-C₃₆ aliphatic hydrocarbons at a concentration of 300 mg/kg in the boom sample. A copy of the laboratory analytical report has been included in Appendix C. The results of this sample indicate the presence of an upstream source of petroleum contamination entering the sluiceway.

Section 5

Geology and Hydrogeology

5.1 Site Topography and Drainage

The Site Locus, attached as Figure 1 in Appendix A, identifies the Site on the Mansfield Massachusetts Quadrangle map, revised by the United States Geological Survey (USGS) in 1987. According to topographic contours shown on Figure 1, the Site is located at an elevation of approximately 177 feet (54 meters) above MSL. Topography in the immediate vicinity of the transformer is flat, with minor localized sloping to the north.

There are no catch basins currently located in the vicinity of the Disposal Site; however, as described in Section 4.1, a hole was discovered in the concrete surrounding the former pad-mounted transformer which opened directly to the sluiceway running beneath the Disposal Site. Stormwater in the vicinity of the Disposal Site is, therefore, anticipated to discharge into the sluiceway and out to the Rumford River.

5.2 Geologic and Stratigraphic Conditions

5.2.1 Site Soils

Soils at the Disposal Site are described in the Soil Survey for Norfolk and Suffolk Counties, Massachusetts (MA616) published by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey as Urban land, 0 to 15 percent slopes. The parent material of this soil type is described as excavated and filled land.

5.2.2 Surficial Geology

Based on observations made during soil boring advancement and monitoring well installation, the concrete surrounding the former transformer is underlain by fill material consisting of sand and some gravel, with varying amounts of concrete and brick debris and trace amounts of silt. The depth of fill extends at least 10 feet bgs, the maximum depth achieved during drilling activities completed at the Site to date.

5.2.3 Bedrock Geology

According to the Bedrock Geologic Map of Massachusetts (Zen et al., 1983), the bedrock underlying the Disposal Site is mapped as the Rhode Island Formation. The Rhode Island Formation is described as sandstone, greywacke, shale and conglomerate with minor bed of meta-anthracite. Bedrock was not encountered during Site boring activities completed at the Site and no bedrock outcrops were observed in the vicinity of the Disposal Site.

5.3 Groundwater Hydrology and Flow Direction

Based on the subsurface activities conducted at the Site as described above, the depth to groundwater in the vicinity of the Disposal Site ranges from 2.18 to 3.73 feet bgs. Based solely on groundwater elevations of the three monitoring wells installed in December 2021, the localized groundwater flow direction within the well network appears to be to the north. Although site-specific data suggest groundwater flow direction to the north, one of the three wells (MW-1) is separated from the other two (MW-2 and MW-3) by the sluiceway

that runs beneath the Site. Based on the measured depth to groundwater and depth of the sluiceway, it is likely that the sluiceway is causing localized influence on groundwater flow direction by acting as a flow boundary between the monitoring wells. Monitoring well locations and groundwater elevations are shown on Figure 6 in Appendix A.

Section 6

Nature and Extent of Contamination

6.1 Summary of Soil Contamination

To date, Tighe & Bond has submitted a total of 11 soil samples for laboratory analysis of EPH carbon ranges during the soil excavation and soil boring activities conducted at the Site. Based on soil laboratory analytical data, EPH carbon ranges are present in the immediate vicinity of the former transformer, at depths ranging from one to seven feet bgs. Residual EPH carbon ranges in excess of MCP Method 1 Standards remain in the area immediately underlying the transformer at an approximate depth of 2.5 feet bgs.

As discussed in section 3.0, available information on the 131 Morse Street property documents the presence of multiple petroleum USTs, petroleum-contaminated soil, and the presence of NAPL at the parcel immediately abutting the subject Disposal Site to the North. Based on this information, it is believed that the presence of weathered petroleum observed in soil encountered during the completion of this Phase I ISI is likely associated with RTN 4-0000255 and is not attributable to the recent release of non-PCB MODF.

6.2 Summary of Groundwater Contamination

Groundwater analytical data obtained as part of assessment activities conducted to date have not identified the presence of EPH carbon ranges above the laboratory MRLs. To date one groundwater sampling event was completed on January 6, 2022.

6.3 Summary of Surface Water Contamination

Surface water analytical data obtained as part of assessment activities conducted to date have not identified the presence of dissolved phase EPH carbon ranges at concentrations above the laboratory MRLs. While dissolved phase EPH has not been identified, varying amounts of emulsified petroleum have been documented at the various boom segments both upstream and downstream of the release location and removed under the IRA. Additionally, the source of the release has been eliminated through the removal of the damaged transformer and MODF concentrations in the environment have been reduced via the excavation of MODF-impacted soil and recovery of emulsified oil from the sluiceway and stream channel. Furthermore, the results of a detailed evaluation of the sluiceway in June 2021 did not identify evidence of MODF entering the sluiceway in the vicinity of the former transformer. Based on this information, it is likely that the subject release of MODF is no longer contributing to surface water impacts at the Site.

Section 7

Migration Pathways and Exposure Potential

7.1 Migration Pathways and Exposure Potential

Transport of contaminants may occur by volatilization to the atmosphere from surface materials (surface water and surficial soil), migration of surface particulates as wind-blown dust, leaching of contaminants through soil to the underlying groundwater, vapor migration in the vadose zone, and movement with groundwater flow in the saturated zone. Factors affecting the migration of contamination in the subsurface, via groundwater flow or by vapor migration, include the chemical characteristics and concentration of the contaminants, groundwater flow velocity, and attenuating factors including dispersion, diffusion, sorption, biodegradation and transformation.

Contaminated soil is present at depths ranging from one to seven feet bgs. The contaminated soil is currently located beneath a layer of polyethylene sheeting upon which processed gravel has been used as backfill. As such, migration of or exposure to contamination via wind-blown dust is unlikely. Migration of contamination via volatilization to indoor air within the adjacent building from shallow soils may be a potential exposure pathway; however, MODF is not considered volatile, with a vapor pressure of less than 0.1 millimeters of mercury [mm Hg]. Therefore, impacts to indoor air from a MODF release in the vicinity of a structure would not be considered a potential exposure pathway.

Contaminants migrate in groundwater by the processes of advection, dispersion, and to a lesser degree, diffusion. Migration pathways considered include groundwater transport through natural soils and fill materials associated with man-made subsurface conduits, as well as vapor migration through the vadose zone and along permeable materials surrounding subsurface utilities. Groundwater has been observed at depths ranging from approximately 2.18 to 3.73 feet bgs. Although groundwater is shallow, the area surrounding the former transformer is generally paved with concrete and the area not overlain by concrete is covered by a layer of polyethylene sheeting and processed gravel. Additionally, EPH carbon ranges were not detected in groundwater above the laboratory MRLs. Therefore, direct contact with contaminated groundwater, associated with this Site, by human receptors is not considered a current exposure pathway. Additionally, the Disposal Site is not located within a Current or Potential Drinking Water Source Area; therefore, exposure to groundwater via ingestion is not considered a potential exposure pathway.

The nearest surface water body to the Disposal Site is the sluiceway and stream that runs beneath the Disposal Site. The stream is contained within a concrete sluiceway structure in the vicinity of the former transformer. However, at least one hole has been identified within the structure that appears to have acted as a preferential pathway for MODF to enter the surface water body during the response to the fire by FFD. MODF would tend to accumulate/absorb to organic matter (i.e. wetland vegetation or leaf debris) rather than rapidly dispersing. Absent of organic matter in the surface water, it is anticipated that MODF would readily disperse in the environment, resulting in a natural attenuation to background conditions. Leaf debris and other organic matter observed during initial response actions on October 4 and October 6, 2020 were collected and managed as oily

solids. The octanol-water partition coefficients (K_{ow})¹ for MODF are, in general, high, with log K_{ow} values ranging from about 5 to about 20, for the smaller chain-length to the larger chain length molecules. Thus, these components are also likely to have high organic carbon-water partitioning coefficient (K_{oc})² values, indicating a high degree of sorption to the organic matter in soils. In addition, their constituent components are also very poorly water soluble, with solubility values ranging from 0.001 to 0.6 milligrams per liter (mg/L), being least soluble for the larger constituents. Thus, these sorption characteristics and water solubility data suggest very poor migration in the dissolved phase.³ As stated above, based on the high K_{ow} , dissolved phase MODF would not be expected for surface water releases. The absence of MODF in the dissolved phase was confirmed by surface water sampling in December 2020, which did not detect the presence of EPH carbon ranges above the laboratory MRLs.

MODF is generally considered to be non-toxic to most aquatic and terrestrial organisms. There was no evidence of stressed aquatic organisms (i.e. fish kills, etc.) in the stream during follow-up inspections conducted over the past year. A significant exposure pathway that would cause "readily apparent harm" has not been identified at the Site. Therefore, aquatic habitats and organisms are not considered to be a potential exposure pathway.

7.1.1 Applicable Groundwater Categories

As described in 310 CMR 40.0932, groundwater category GW-3 applies to all groundwater in the Commonwealth of Massachusetts, as it is presumed that all groundwater eventually discharges to a surface water body. Groundwater category GW-2 applies to groundwater located within 30 feet of an existing occupied building where depth to groundwater is less than 15 feet bgs. Groundwater category GW-1 applies to groundwater within a current or potential drinking water source area.

As indicated in Section 2.7, the Disposal Site is not located within a Current or Potential Drinking Water Source Area. Therefore, category GW-1 is not applicable to groundwater at the Disposal Site. Groundwater at the Disposal Site is located less than 15 feet bgs and within 30 feet of a building; however, the building is not currently occupied. Although the building is not occupied and is unlikely to be occupied in the near future, GW-2 is conservatively applicable to groundwater at the Disposal Site in the event future activities, such as renovations or redevelopment result in the presence of an occupied building. Groundwater category GW-3 also applies to the Disposal Site.

7.1.2 Applicable Soil Categories

In accordance with 310 CMR 40.0933(9) soil category S-1 is applicable to soil located at depths of 0 to 3 feet bgs, in unpaved areas, as this soil is considered "accessible". At this point in time, MODF-impacted soil has been identified in unpaved locations at a depth of less than 3 feet bgs and are considered accessible or potentially accessible. However, the

¹ K_{ow} , the octanol-water partition coefficient, is the ratio of a chemical's concentration in octanol to its concentration in water at equilibrium. The concept of K_{ow} was developed by the pharmaceutical industry as a useful index of a drug's behavior in the body, because partitioning between water and octanol roughly mimics partitioning between water and body fat. In general, smaller molecules dissolve more readily in water, have lower K_{ow} values, and have less tendency to sorb to solids. Larger molecules are less soluble, have higher K_{ow} values, and are more likely to sorb to solids.

² K_{oc} , the organic carbon-water partition coefficient, is the ratio of a chemical's concentration sorbed to organic carbon to its concentration in water. K_{oc} can be used to estimate the extent of sorption.

³ Reregistration Eligibility Decision (RED) for Aliphatic Solvents and Mineral Oil, prepared by the U.S. EPA and dated July 12, 2006

Site is a commercial/industrial mill building, where children would likely be present at a low intensity and low frequency. Based on the current frequency and intensity of use by human receptors, Site soils are categorized as S-2. Should Site conditions change as additional response actions are completed, the applicable soil category(ies) will be evaluated and modified as necessary.

7.2 Evaluation for Immediate Response Actions

Tighe & Bond assessed critical exposure pathways, imminent hazards, and conditions of substantial release migration.

7.2.1 Critical Exposure Pathway Evaluation

An evaluation of Critical Exposure Pathways (CEPs) was presented in the December 2020 IRA Plan. As indicated in the IRA Plan, a CEP did not exist based on the lack of schools, residences, day care facilities and/or drinking water supply wells located at or in the immediate vicinity of the Disposal Site. Since the initial CEP evaluation, site conditions have not substantially changed, and property use in the immediate vicinity remains consistent with the use presented in the IRA Plan. Based on this information and the distance to residential dwellings, schools, and daycares; the characteristics of MODF which are deemed not volatile; and the lack of impact to groundwater at the Disposal Site, a CEP is not likely to exist at the Disposal Site.

7.2.2 Imminent Hazard Evaluation

An IH is a hazard which poses a significant risk of harm to health, safety, public welfare or the environment if it were present for even a short period of time. Releases that constitute an IH are defined in 310 CMR 40.0321.

Based on the site assessment activities conducted to date at the Disposal Site, none of the conditions which pose or could pose an IH have been met.

7.2.3 Substantial Release Migration Evaluation

As stated in the December 2020 IRA Plan, a Condition of SRM existed at the Disposal Site at the time of the release based on the discharge of separate-phase oil to the sluiceway as documented by the FFD. As documented herein, the condition of SRM has been evaluated as part of the IRA and has been addressed through the implementation of response actions under the IRA. Specifically, the source of the release has been eliminated through the removal of the damaged transformer and MODF concentrations in the environment have been reduced via the excavation of MODF-impacted soil and recovery of emulsified oil from the sluiceway and stream channel. Additionally, the results of a detailed evaluation of the sluiceway in June 2021 did not identify evidence of MODF entering the sluiceway in the vicinity of the former transformer. Furthermore, recent subsurface investigation activities conducted in the immediate vicinity of the former transformer did not reveal the presence of LNAPL in soil or on groundwater within the monitoring wells and EPH carbon ranges were not detected in groundwater samples collected from the three wells. Based on this information, the source of MODF has been eliminated and the concentrations of residual MODF remaining in site soil have been reduced such that the Condition of SRM has been eliminated.

Section 8

Tier Classification, Phase I Completion Statement, and Conceptual Phase II Scope of Work

8.1 Tier Classification

8.1.1 Scope of Applicability

In accordance with 310 CMR 40.0500, disposal sites for which MassDEP has received a notification of a release of oil and/or hazardous material pursuant to 310 CMR 40.0300 shall be Tier Classified as specified by MassDEP within one year of the date of release. The Tier Classification process consists of:

- The completion of a Phase I ISI report (310 CMR 40.0480);
- A comparison of conditions with the Tier I Criteria set forth in 310 CMR 40.0520(2);
- The preparation and filing with MassDEP of a Tier Classification submittal (310 CMR 40.0510(2)); and
- The public involvement activities relevant to Tier Classification, including but not limited to, those activities set forth in 310 CMR 40.1403(3) and (6).

MassDEP considers the date of notification for this release to be October 4, 2020; therefore, the Disposal Site must be Tier Classified by October 4, 2021. Due to complications related to property access with the property owner, Tighe & Bond submitted a Delay in Compliance letter for the Disposal Site on October 4, 2021 in lieu of this Phase I ISI. A NON was issued to MEC by MassDEP on November 22, 2021 that identified a new Tier Classification deadline of January 31, 2022. Tighe & Bond subsequently contacted MassDEP on behalf of MEC to discuss the completion of the Phase I ISI and Tier Classification. As a result, MassDEP extended the Phase I ISI deadline to February 28, 2022.

Following property owner approval of an access agreement, Tighe & Bond was able to oversee the completion of soil borings and groundwater monitoring wells, which allowed for the collection of additional data to support this Phase I ISI and Tier Classification.

8.1.2 Comparison with Tier I Criteria

Based on the results of this Phase I ISI, a Tier Classification was performed for the Disposal Site in accordance with 310 CMR 40.0500. Pursuant to 310 CMR 40.0520(2), any disposal site which meets the following criteria at the time of Tier Classification shall be classified as Tier I:

- There is evidence of groundwater contamination with oil and/or hazardous material at concentrations equal to or exceeding the applicable RCGW-1 Reportable Concentrations set forth in 310 CMR 40.0360, and such groundwater is located within an Interim Wellhead Protection Area, Zone II, or within 500 feet of a Private Water Supply Well;

- An IH condition is present;
- One or more remedial actions are required as part of an IRA pursuant to 310 CMR 40.0414(2); or
- One or more response actions are required as part of an IRA to eliminate or mitigate a CEP pursuant to 310 CMR 40.0414(3).

If the Site does not meet the criteria of a Tier I Classification and the Disposal Site is not Tier 1D, pursuant to 310 CMR 40.0502 or 40.0520(5), then the Disposal Site will be classified as Tier II.

Based upon information contained in this Phase I ISI Report, the Disposal Site does not meet the Tier I criteria pursuant to 310 CMR 40.0520(2). Based on this information, the Disposal Site meets the requirements for classification as a Tier II Disposal Site.

8.2 Public Involvement

In accordance with 310 CMR 40.1403, notice of the availability of this Phase I ISI Report is being submitted to the Chief Municipal Officer and the Board of Health of the Town of Foxborough within one week of the submittal of this report to the MassDEP. In accordance with 310 CMR 40.1403(6), a Notice of Tier Classification will be published in a local newspaper of general circulation, pursuant to 310 CMR 40.1403(2)(b), within seven days of the Tier Classification of the Disposal Site. Please note that a newspaper tear sheet will be submitted to MassDEP to confirm publication. Public notification letters and a copy of the legal notice are included in Appendix E.

8.3 Conceptual Scope of Work

A Conceptual Scope of Work (SOW) for the Site is required as part of the Tier Classification process, pursuant to 310 CMR 40.0510(2)(f)(2). The Conceptual SOW is outlined below:

- Additional assessment of groundwater conditions at the Disposal Site, including additional collection of groundwater samples throughout seasonal water table fluctuations will be completed.
- Based on the results of a pending Method 3 Risk Assessment for the Site, additional excavation of soil immediately underlying the transformer may be necessary
- The SOW may also include additional assessment activities related to the sluiceway or other structural impediments present at the Disposal Site.

8.3.1 Conceptual Scope of Work Outcome

The data expected to be generated through the proposed Phase II SOW is intended to assist in the evaluation of contamination in soil and groundwater at the Disposal Site. These site investigation activities are anticipated to provide sufficient characterization of the Disposal Site and allow for the characterization of risk of harm to human health, safety, public welfare, and the environment.

8.3.2 Conceptual Scope of Work Schedule

A Phase II CSA Report is due within three years of the intended Tier Classification, or October 4, 2024. Alternatively, if a condition of No Significant Risk can be achieved prior to October 4, 2024, a Permanent Solution Statement will be prepared for the Disposal Site.

Section 9

Summary and Conclusions

On behalf of MEC, Tighe & Bond has prepared this Phase I Initial Site Investigation Report and Tier Classification for a sudden release of non-polychlorinated biphenyl mineral oil dielectric fluid that occurred at the Disposal Site. The Disposal Site is located in the central portion of the mill complex identified as 131 Morse Street in Foxborough, Massachusetts. Based upon a review of site conditions with respect to the criteria set forth in the MCP, 310 CMR 40.0500, the Tier I inclusionary criteria have not been met. Therefore, the Site is classified as a Tier II Disposal Site.

9.1 Outcome of Phase I ISI Report

In accordance with 310 CMR 40.0486, the following outcomes are possible at the completion of a Phase I ISI Report:

- The requirements of a Permanent Solution have been met, pursuant to 310 CMR 40.1000, and a Permanent Solution Statement is submitted to MassDEP; or
- Comprehensive Response Actions (CRAs) are necessary at the Disposal Site. Tier classification of the Disposal Site must be completed prior to the completion of CRAs.

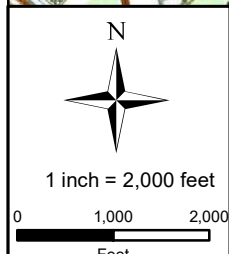
The nature and extent of potential groundwater contamination at the Disposal Site is under review by Tighe & Bond to determine whether groundwater conditions have been adequately defined to meet the requirements of a Permanent Solution. Additionally, structural impediments, including the presence of the adjacent building and the underlying sluiceway have limited the ability to conduct additional soil removal activities. A risk assessment of the soil contamination remaining at the Disposal Site is required to determine whether the requirements of a Permanent Solution have been met as current site conditions do not represent a condition of No Significant Risk pursuant to 310 CMR 40.0900. Additional investigation activities may be necessary to complete the CSM, delineate the nature and extent of oil and/or hazardous material in soil and groundwater, and support an evaluation of risk associated with the Disposal Site.

9.2 LSP Opinion

It is the Opinion of the LSP that the requirements of a Phase I ISI specified in 310 CMR 40.0480 have been met. The certification of the Phase I ISI and all documents as required by 310 CMR 40.0009 can be found on Tier Classification Transmittal Form (BWSC-107). Subsurface investigation limitations are provided in Appendix F.

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APPENDIX A



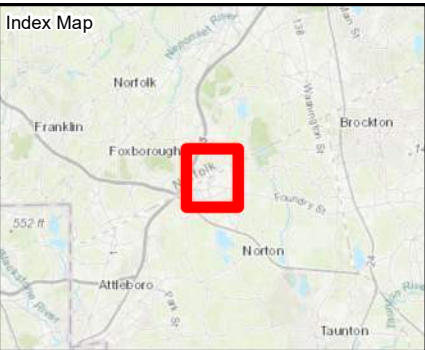
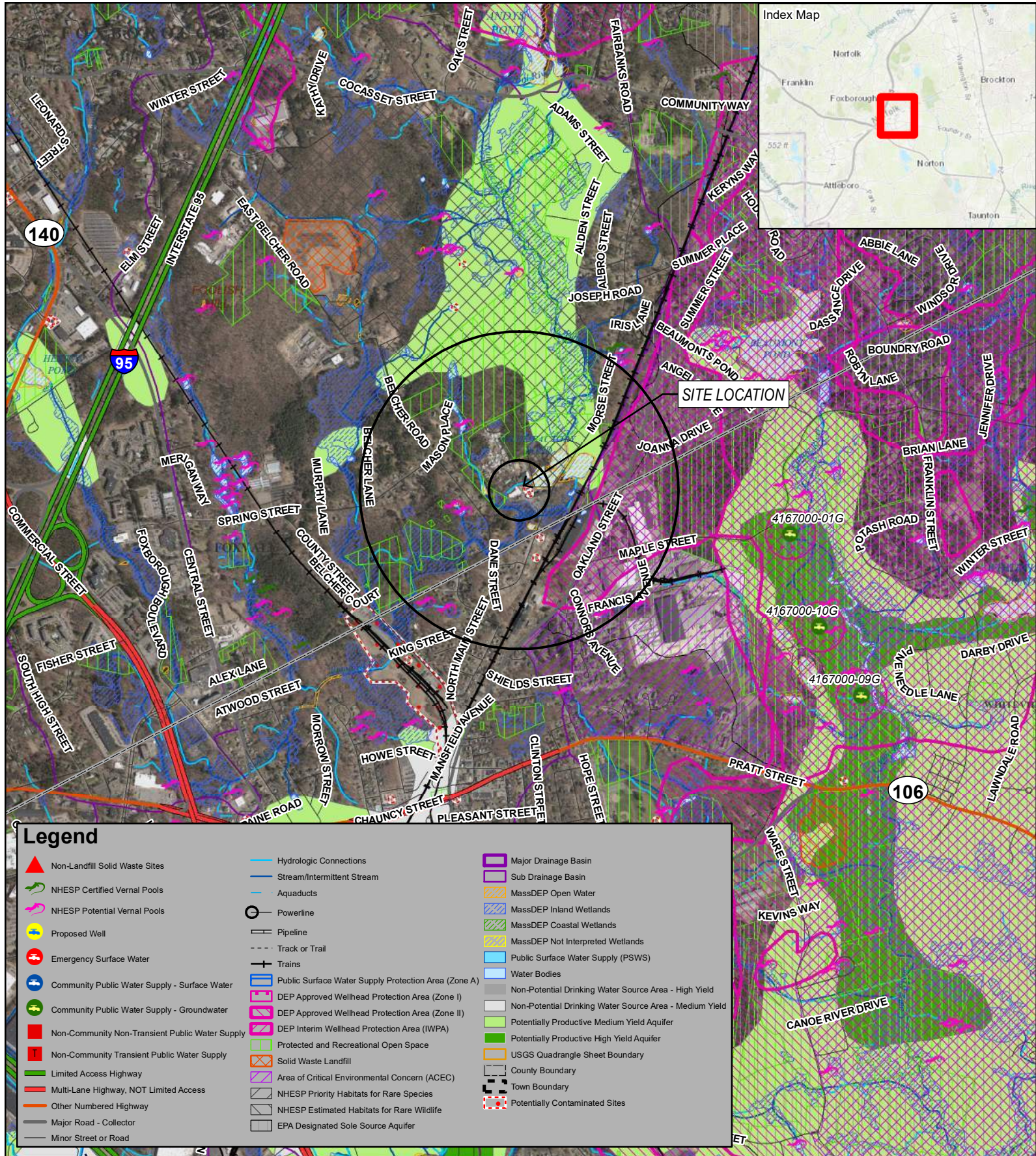
MODF RELEASE

Site Location

31 Morse Street, Foxborough, Massachusetts
Figure 1

Based on USGS Topographic Map for Mansfield, MA Revised 1987. Contour Interval Equals 3 meters.





| Legend | | | | | |
|--------|---|--|--|--|---|
| | Non-Landfill Solid Waste Sites | | Hydrologic Connections | | Major Drainage Basin |
| | NHESP Certified Vernal Pools | | Stream/Intermittent Stream | | Sub Drainage Basin |
| | NHESP Potential Vernal Pools | | Aquaducts | | MassDEP Open Water |
| | Proposed Well | | Powerline | | MassDEP Inland Wetlands |
| | Emergency Surface Water | | Pipeline | | MassDEP Coastal Wetlands |
| | Community Public Water Supply - Surface Water | | Trains | | MassDEP Not Interpreted Wetlands |
| | Community Public Water Supply - Groundwater | | Public Surface Water Supply Protection Area (Zone A) | | Water Bodies |
| | Non-Community Non-Transient Public Water Supply | | DEP Approved Wellhead Protection Area (Zone I) | | Non-Potential Drinking Water Source Area - High Yield |
| | Non-Community Transient Public Water Supply | | DEP Approved Wellhead Protection Area (Zone II) | | Non-Potential Drinking Water Source Area - Medium Yield |
| | Limited Access Highway | | DEP Interim Wellhead Protection Area (IWPA) | | Potentially Productive Medium Yield Aquifer |
| | Multi-Lane Highway, NOT Limited Access | | Protected and Recreational Open Space | | Potentially Productive High Yield Aquifer |
| | Other Numbered Highway | | Solid Waste Landfill | | USGS Quadrangle Sheet Boundary |
| | Major Road - Collector | | Area of Critical Environmental Concern (ACEC) | | County Boundary |
| | Minor Street or Road | | NHESP Priority Habitats for Rare Species | | Town Boundary |
| | | | NHESP Estimated Habitats for Rare Wildlife | | Potentially Contaminated Sites |
| | | | EPA Designated Sole Source Aquifer | | |



1 inch = 2,000 feet

0 1,000 2,000
Feet

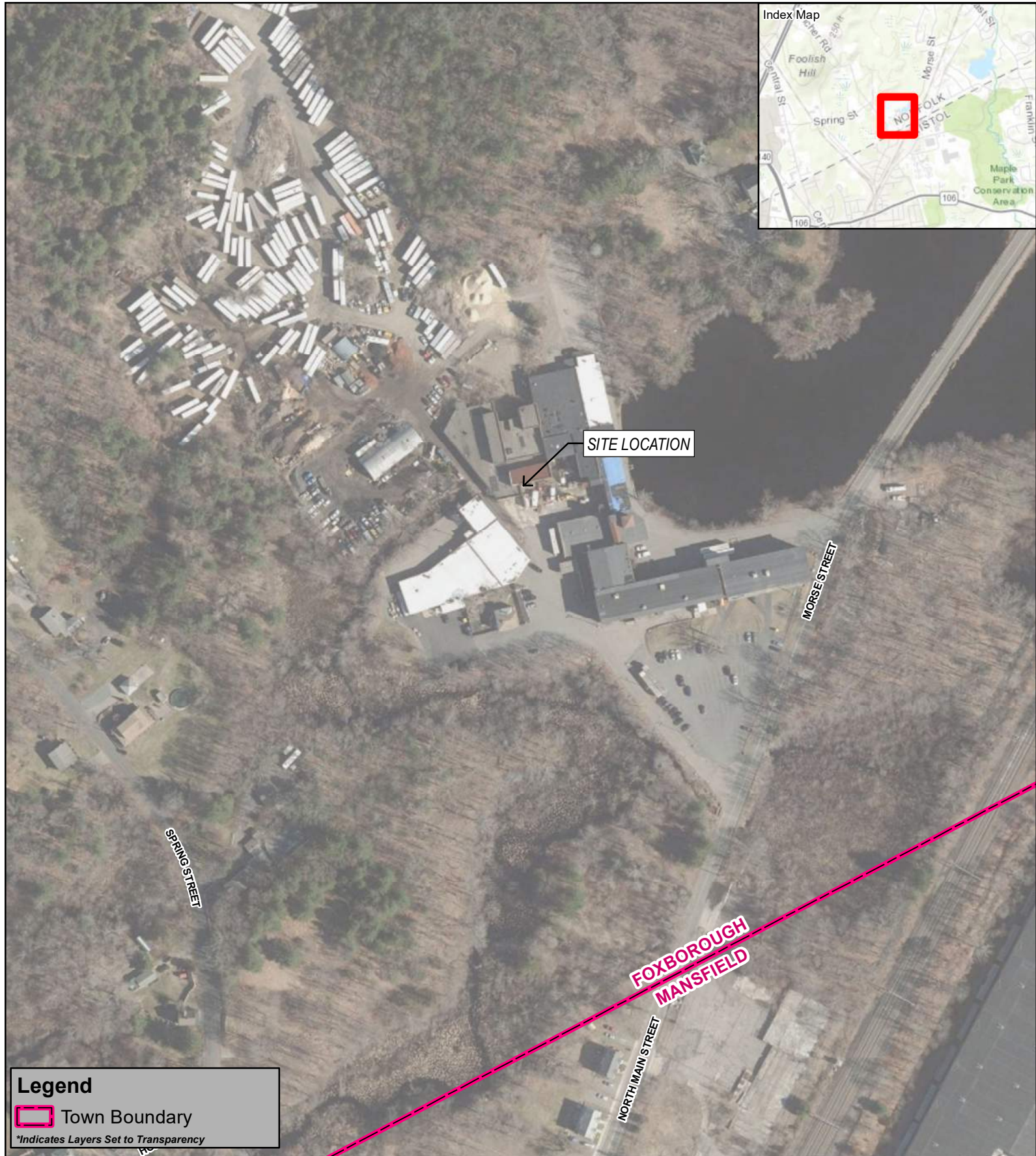
MODF RELEASE

Priority Resources

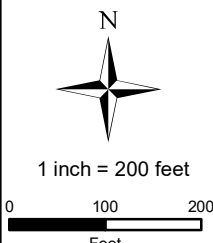
31 Morse Street, Foxborough, Massachusetts
 Figure 2

Data source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology
 Circles indicate 500-foot and half-mile radii.
 Data valid as of November 2020.





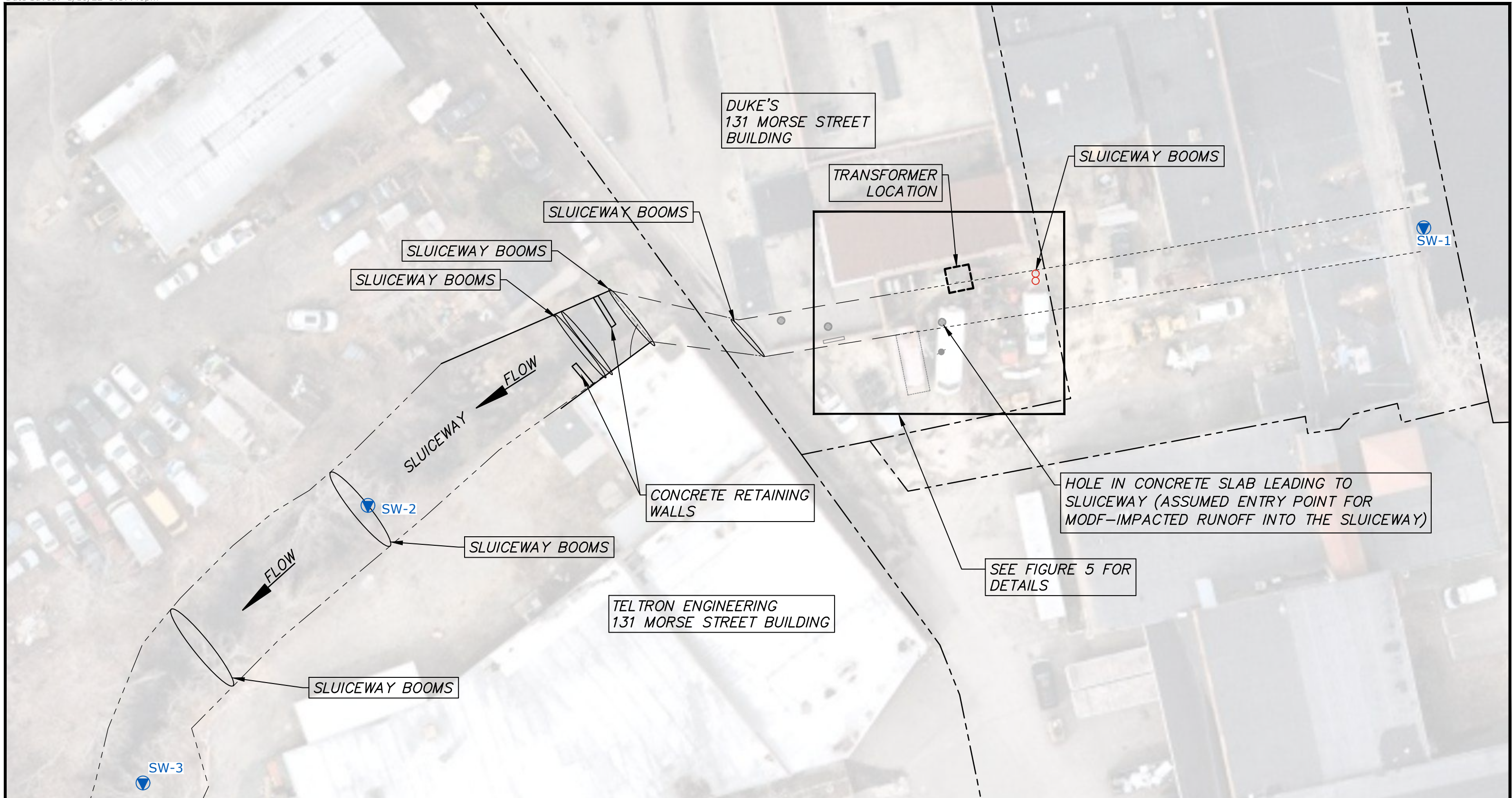
Legend
Town Boundary
*Indicates Layers Set to Transparency



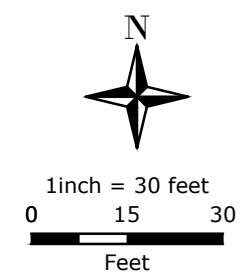
MODF RELEASE
Orthophotograph

131 Morse Street, Foxborough, Massachusetts
Figure 3

Based on MassGIS Color Orthophotography (2019).
nationalgrid
Tighe&Bond



- Legend**
- APPROXIMATE SLUCEWAY BENEATH BUILDING/ROAD
 - APPROXIMATE SLUCEWAY BENEATH CONCRETE SLAB
 - APPROXIMATE OPEN CHANNEL SLUCEWAY
 - SURFACE WATER LOCATION
 - APPROXIMATE PARCEL BOUNDARY



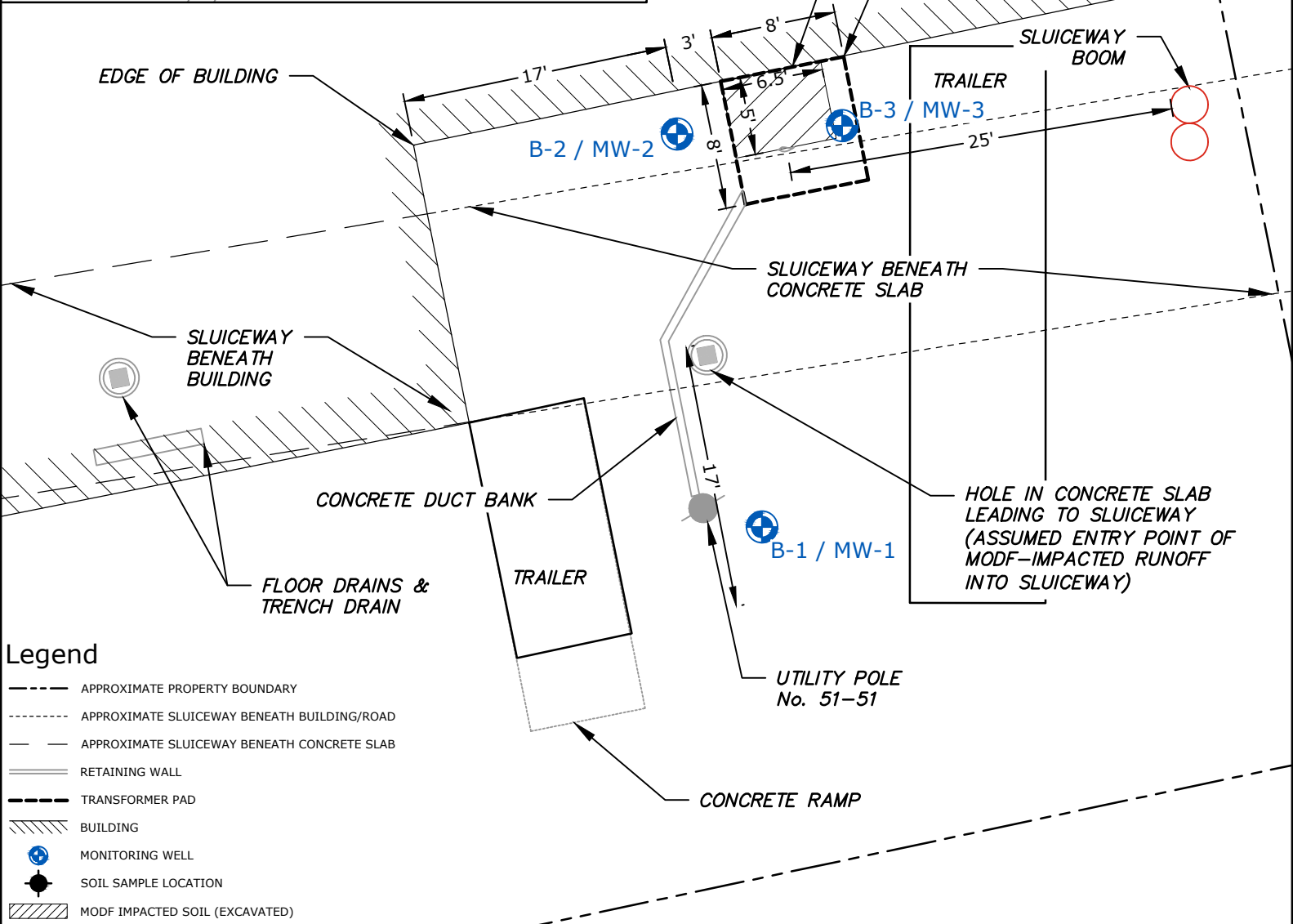
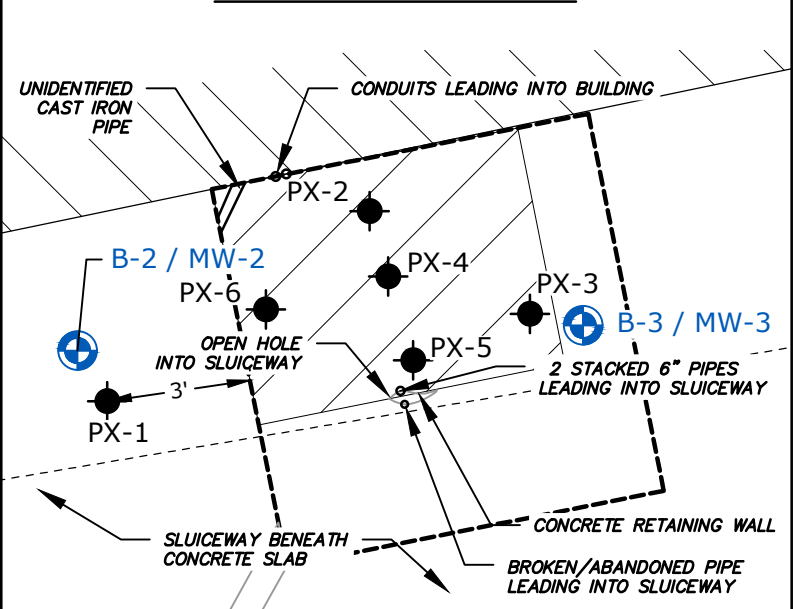
MODF RELEASE

Sluceway Boom Locations

131 Morse Street, Foxborough, Massachusetts
Figure 4

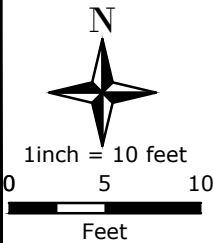
NOTES

SAMPLE LOCATION DETAIL



Legend

- APPROXIMATE PROPERTY BOUNDARY
- APPROXIMATE SLUICEWAY BENEATH BUILDING/ROAD
- APPROXIMATE SLUICEWAY BENEATH CONCRETE SLAB
- RETAINING WALL
- TRANSFORMER PAD
- /// BUILDING
- ⊕ MONITORING WELL
- SOIL SAMPLE LOCATION
- /// MODF IMPACTED SOIL (EXCAVATED)

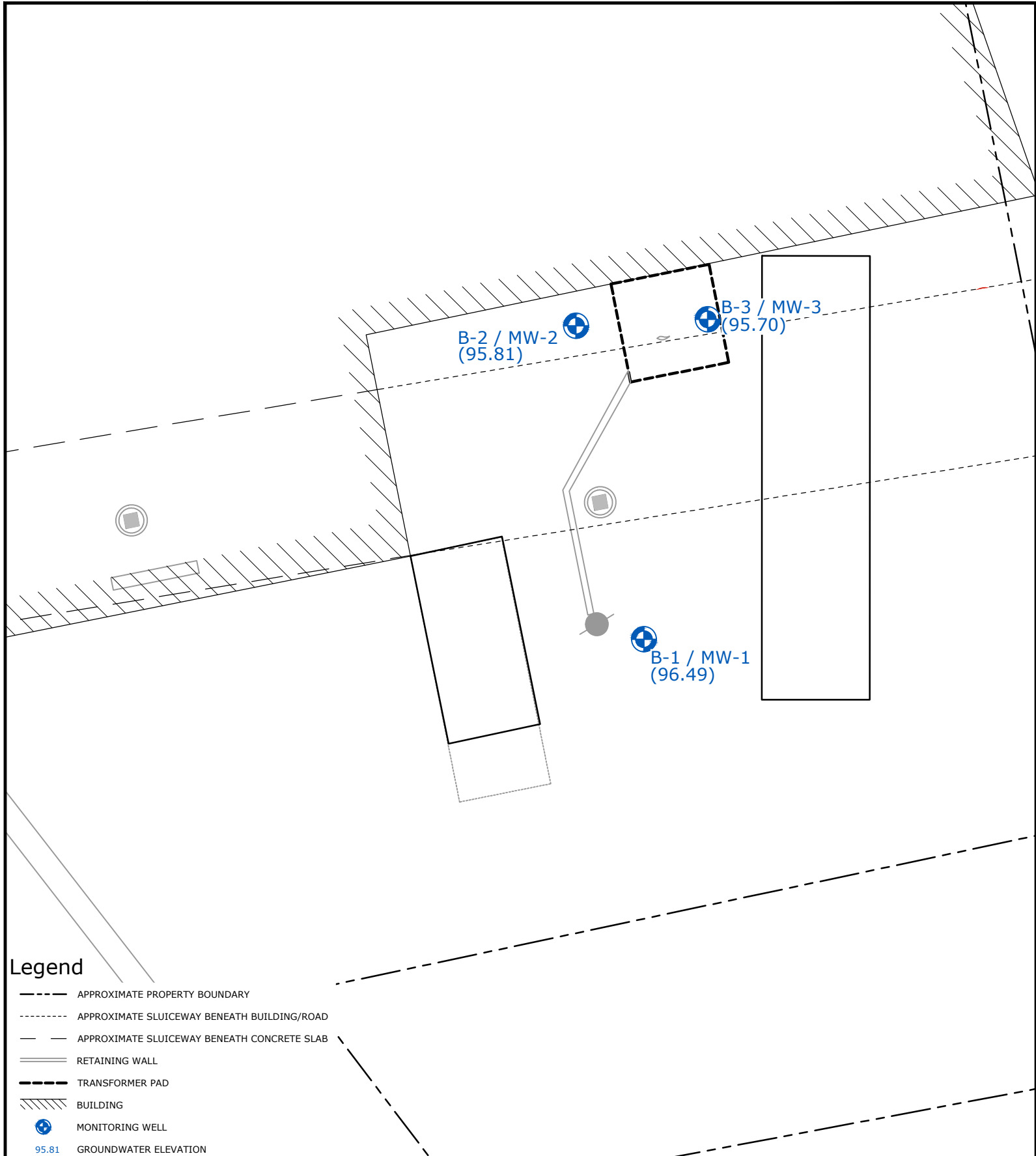


MODF RELEASE

Site Plan

131 Morse Street, Foxborough, Massachusetts
 Figure 5

NOTES
 BASE IMAGE FROM MASSACHUSETTS
 2019 USGS COLOR ORTHO IMAGERY



- Legend**
- APPROXIMATE PROPERTY BOUNDARY
 - APPROXIMATE SLUICEWAY BENEATH BUILDING/ROAD
 - APPROXIMATE SLUICEWAY BENEATH CONCRETE SLAB
 - ==== RETAINING WALL
 - TRANSFORMER PAD
 - /// BUILDING
 - ⊕ MONITORING WELL
 - 95.81 GROUNDWATER ELEVATION

N

1 inch = 10 feet

0 5 10
Feet

MODF RELEASE

Groundwater Elevation Map

131 Morse Street, Foxborough, Massachusetts
 Figure 6

NOTES

- 1) BASE IMAGE FROM MASSACHUSETTS 2019 USGS COLOR ORTHO IMAGERY.
- 2) GROUNDWATER ELEVATIONS ARE BASED ON AN ARBITRARY DATUM WITH A BENCHMARK AT 100 FEET.

nationalgrid
Tighe&Bond

Tighe&Bond

APPENDIX B

TABLE 1

Soil Analytical Results
National Grid
Pad-Mounted Transformer Release
131 Morse Street
Foxborough, Massachusetts

| Sample ID Sample Depth (feet) Sample Date Petroflag (ppm) | MassDEP Method 1 S-2/GW-2 | MassDEP Method 1 S-2/GW-3 | Post-Excavation Soil Samples | | | | | | Soil Boring Samples | | | | |
|--|---------------------------------|---------------------------------|--------------------------------|------------------------------|-----------------------------|--------------------------------|----------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------|---------------------------------|-------------------------------|
| | | | PX-1 1 02/24/21 1,158 | PX-2 1 02/24/21 305 | PX-3 1 02/24/21 88 | PX-4 2.5 02/24/21 825 | PX-5 2.5 02/24/21 1,150 | PX-6 2.5 02/24/21 944 | B-1 2.5-5 12/29/21 17 | B-2 2.5-5 12/29/21 47 | B-2 5-7 12/29/21 97 | B-3 2.5-5 12/29/21 161 | B-3 5-7 12/29/21 637 |
| EPH Carbon Ranges (mg/kg) | | | | | | | | | | | | | |
| C ₉ -C ₁₈ Aliphatics | 3,000 | 3,000 | 417 | 41.5 | < 16.2 | 5,670 | 7,170 | 3,990 | < 18.1 | < 18.4 | < 21.3 | 85.1 | 128 |
| C ₁₉ -C ₃₆ Aliphatics | 5,000 | 5,000 | 512 | 66.8 | 20.3 | 7,490 | 8,980 | 5,260 | < 18.1 | < 18.4 | < 21.3 | 99.9 | 145 |
| C ₁₁ -C ₂₂ Aromatics | 3,000 | 3,000 | 276 | 46.9 | 135 | 5,740 | 7,030 | 2,310 | < 18.1 | < 18.4 | 151 | 53.7 | 86.1 |

Notes:

ppm = parts per million

mg/kg = milligrams per kilogram (equivalent to ppm)

< XX - Not Detected Above Laboratory Method Detection Limit

Bold concentrations exceed one or more MassDEP Method 1 criteria

TABLE 2

Groundwater Analytical Results
National Grid
Pad-Mounted Transformer Release
131 Morse Street
Foxborough, Massachusetts

| Sample ID | | | MW-1 | MW-2 | MW-3 |
|---|---------------|---------------|----------|----------|----------|
| Sample Date | MassDEP | MassDEP | 1/6/2022 | 1/6/2022 | 1/6/2022 |
| Top of PVC Elevation (ft.) | Method 1 | Method 1 | 98.67 | 99.54 | 99.30 |
| Depth to Water (feet) | GW-2 Standard | GW-3 Standard | 2.18 | 3.73 | 3.60 |
| Groundwater Elevation | | | 96.49 | 95.81 | 95.70 |
| EPH Carbon Ranges (µg/L) | | | | | |
| C ₉ -C ₁₈ Aliphatics | 5,000 | 50,000 | < 99 | < 98 | < 98 |
| C ₁₁ -C ₂₂ Aromatics | 50,000 | 5,000 | < 99 | < 98 | < 98 |
| C ₁₉ -C ₃₆ Aliphatics | NS | 50,000 | < 99 | < 98 | < 98 |

Notes:

<XX indicates analyte was not detected above method reporting limit provided.

µg/L = micrograms per liter

TABLE 3

Surface Water Analytical Results
National Grid
Pad-Mounted Transformer Release
131 Morse Street
Foxborough, Massachusetts

| Sample ID | Recommended Surface Water Quality Guidelines | SW-1 | SW-2 | SW-3 |
|---------------------------------|--|-----------|---------------------------------|-----------|
| Sample Date | | 12/9/2020 | 12/9/2020 | 12/9/2020 |
| EPH Carbon Ranges (µg/L) | | | | |
| C9-C18 Aliphatics | 1,800 | < 100 | NA | < 95 |
| C19-C36 Aliphatics | 2,100 | < 100 | NA | < 95 |
| C11-C22 Aromatics, Adjusted | NS | < 100 | NA | < 95.2 |
| TPH Fingerprint | NS | NA | Resembles Transformer Oil Range | NA |

Notes:

EPH = extractable petroleum hydrocarbons

TPH = total petroleum hydrocarbons

µg/L = micrograms per liter

NS = no standard

NA = not analyzed

< XX - Not detected above laboratory Method Detection Limit

Surface Water sample concentrations were compared to the Recommended Surface Water Quality Guidelines contained in Table 4-12 of the Implementation of the MassDEP VPH/EPH Approach Policy #WSC-02-411

Tighe&Bond

APPENDIX C

CERTIFICATE OF ANALYSIS

Matt Abraham
Tighe & Bond
120 Front Street, Suite 7
Worcester, MA 01608

RE: MEC - 131 Morse St Foxborough MA (N-5067-084)
ESS Laboratory Work Order Number: 21C0073

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard
Laboratory Director

REVIEWED*By ESS Laboratory at 4:02 pm, Mar 09, 2021***Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 21C0073

SAMPLE RECEIPT

The following samples were received on March 02, 2021 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Question I: All samples for EPH were analyzed for a subset of the required MCP list per the client's request.

| Lab Number | Sample Name | Matrix | Analysis |
|-------------------|--------------------|---------------|--------------------|
| 21C0073-01 | PX-1 | Soil | EPH8270, MADEP-EPH |
| 21C0073-02 | PX-2 | Soil | EPH8270, MADEP-EPH |
| 21C0073-03 | PX-3 | Soil | EPH8270, MADEP-EPH |
| 21C0073-04 | PX-4 | Soil | EPH8270, MADEP-EPH |
| 21C0073-05 | PX-5 | Soil | EPH8270, MADEP-EPH |
| 21C0073-06 | PX-6 | Soil | EPH8270, MADEP-EPH |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 21C0073

PROJECT NARRATIVE

MADEP-EPH Extractable Petroleum Hydrocarbons

21C0073-04 [Surrogate recovery\(ies\) diluted below the MRL \(SD\).](#)

1-Chlorooctadecane (% @ 40-140%)

21C0073-05 [Surrogate recovery\(ies\) diluted below the MRL \(SD\).](#)

1-Chlorooctadecane (% @ 40-140%)

21C0073-06 [Surrogate recovery\(ies\) diluted below the MRL \(SD\).](#)

1-Chlorooctadecane (% @ 40-140%)

D1C0070-CCV1 [Continuing Calibration %Diff/Drift is above control limit \(CD+\).](#)

Fluorene (22% @ 20%)

D1C0070-CCV6 [Continuing Calibration %Diff/Drift is above control limit \(CD+\).](#)

Fluorene (22% @ 20%), O-Terphenyl (23% @ 20%), Phenanthrene (22% @ 20%)

D1C0070-CCV8 [Continuing Calibration %Diff/Drift is above control limit \(CD+\).](#)

Fluoranthene (21% @ 20%)

D1C0070-CCVA [Continuing Calibration %Diff/Drift is above control limit \(CD+\).](#)

Fluoranthene (22% @ 20%), O-Terphenyl (23% @ 20%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 21C0073

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 21C0073

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **21C0073-01 through 21C0073-06**

Matrices: () Ground Water/Surface Water Soil/Sediment () Drinking Water () Air () Other: _____

CAM Protocol (check all that apply below):

- | | | | | | |
|---|--|--|---|--|---|
| <input type="checkbox"/> 8260 VOC CAM II A | <input type="checkbox"/> 7470/7471 Hg CAM III B | <input type="checkbox"/> MassDEP VPH (GC/PID/FID) CAM IV A | <input type="checkbox"/> 8082 PCB CAM V A | <input type="checkbox"/> 9014 Total Cyanide/PAC CAM VI A | <input type="checkbox"/> 6860 Perchlorate CAM VIII B |
| <input type="checkbox"/> 8270 SVOC CAM II B | <input type="checkbox"/> 7010 Metals CAM III C | <input type="checkbox"/> MassDEP VPH (GC/MS) CAM IV C | <input type="checkbox"/> 8081 Pesticides CAM V B | <input type="checkbox"/> 7196 Hex Cr CAM VI B | <input type="checkbox"/> MassDEP APH CAM IX A |
| <input type="checkbox"/> 6010 Metals CAM III A | <input type="checkbox"/> 6020 Metals CAM III D | <input checked="" type="checkbox"/> MassDEP EPH CAM IV B | <input type="checkbox"/> 8151 Herbicides CAM V C | <input type="checkbox"/> Explosives CAM VIII A | <input type="checkbox"/> TO-15 VOC CAM IX B |

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

- | | | |
|---|--|--|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | Yes <input checked="" type="checkbox"/> No () |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | Yes <input checked="" type="checkbox"/> No () |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | Yes <input checked="" type="checkbox"/> No () |
| D | Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? | Yes <input checked="" type="checkbox"/> No () |
| E | VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method? | Yes <input checked="" type="checkbox"/> No () Yes () No () |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | Yes <input checked="" type="checkbox"/> No () |

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

- | | | |
|---|--|--|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? <i>Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.</i> | Yes <input checked="" type="checkbox"/> No ()* |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | Yes () No <input checked="" type="checkbox"/> * |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | Yes () No <input checked="" type="checkbox"/> * |

***All negative responses must be addressed in an attached laboratory narrative.**

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard
Printed Name: Laurel Stoddard

Date: March 09, 2021
Position: Laboratory Director



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: MEC - 131 Morse St Foxborough MA
Client Sample ID: PX-1
Date Sampled: 02/24/21 14:00
Percent Solids: 90
Initial Volume: 24.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 21C0073
ESS Laboratory Sample ID: 21C0073-01
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/2/21 16:35

MADEP-EPH Extractable Petroleum Hydrocarbons

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|-----------------|--------------|
| C9-C18 Aliphatics1 | 417 (33.9) | | MADEP-EPH | | 2 | AMF | 03/04/21 21:42 | D1C0089 | DC10202 |
| C19-C36 Aliphatics1 | 512 (33.9) | | MADEP-EPH | | 2 | AMF | 03/04/21 21:42 | D1C0089 | DC10202 |
| C11-C22 Unadjusted Aromatics1 | 276 (16.9) | | EPH8270 | | 1 | AMF | 03/04/21 8:43 | D1C0070 | DC10202 |
| C11-C22 Aromatics1,2 | 276 (16.9) | | EPH8270 | | | AMF | 03/04/21 8:43 | | [CALC] |

| | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|--------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1-Chlorooctadecane</i> | 61 % | | 40-140 |
| <i>Surrogate: 2-Bromonaphthalene</i> | 98 % | | 40-140 |
| <i>Surrogate: 2-Fluorobiphenyl</i> | 96 % | | 40-140 |
| <i>Surrogate: O-Terphenyl</i> | 61 % | | 40-140 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: MEC - 131 Morse St Foxborough MA
Client Sample ID: PX-2
Date Sampled: 02/24/21 14:05
Percent Solids: 97
Initial Volume: 24.7
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 21C0073
ESS Laboratory Sample ID: 21C0073-02
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/2/21 16:35

MADEP-EPH Extractable Petroleum Hydrocarbons

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|-----------------|--------------|
| C9-C18 Aliphatics1 | 41.5 (15.7) | | MADEP-EPH | | 1 | AMF | 03/03/21 17:19 | D1C0058 | DC10202 |
| C19-C36 Aliphatics1 | 66.8 (15.7) | | MADEP-EPH | | 1 | AMF | 03/03/21 17:19 | D1C0058 | DC10202 |
| C11-C22 Unadjusted Aromatics1 | 47.4 (15.7) | | EPH8270 | | 1 | AMF | 03/04/21 15:52 | D1C0070 | DC10202 |
| C11-C22 Aromatics1,2 | 46.9 (15.7) | | EPH8270 | | | AMF | 03/04/21 15:52 | | [CALC] |

| | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|--------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1-Chlorooctadecane</i> | 56 % | | 40-140 |
| <i>Surrogate: 2-Bromonaphthalene</i> | 103 % | | 40-140 |
| <i>Surrogate: 2-Fluorobiphenyl</i> | 99 % | | 40-140 |
| <i>Surrogate: O-Terphenyl</i> | 84 % | | 40-140 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: MEC - 131 Morse St Foxborough MA
Client Sample ID: PX-3
Date Sampled: 02/24/21 14:10
Percent Solids: 95
Initial Volume: 24.4
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 21C0073
ESS Laboratory Sample ID: 21C0073-03
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/2/21 16:35

MADEP-EPH Extractable Petroleum Hydrocarbons

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|--------------------------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|-----------------|--------------|
| C9-C18 Aliphatics1 | ND (16.2) | | MADEP-EPH | | 1 | AMF | 03/03/21 18:07 | D1C0058 | DC10202 |
| C19-C36 Aliphatics1 | 20.3 (16.2) | | MADEP-EPH | | 1 | AMF | 03/03/21 18:07 | D1C0058 | DC10202 |
| C11-C22 Unadjusted Aromatics1 | 177 (16.2) | | EPH8270 | | 1 | AMF | 03/04/21 16:28 | D1C0070 | DC10202 |
| C11-C22 Aromatics1,2 | 135 (16.2) | | EPH8270 | | | AMF | 03/05/21 19:22 | | [CALC] |

| | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|--------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1-Chlorooctadecane</i> | 52 % | | 40-140 |
| <i>Surrogate: 2-Bromonaphthalene</i> | 103 % | | 40-140 |
| <i>Surrogate: 2-Fluorobiphenyl</i> | 99 % | | 40-140 |
| <i>Surrogate: O-Terphenyl</i> | 70 % | | 40-140 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
 Client Project ID: MEC - 131 Morse St Foxborough MA
 Client Sample ID: PX-4
 Date Sampled: 02/24/21 14:15
 Percent Solids: 93
 Initial Volume: 24.2
 Final Volume: 1
 Extraction Method: 3546

ESS Laboratory Work Order: 21C0073
 ESS Laboratory Sample ID: 21C0073-04
 Sample Matrix: Soil
 Units: mg/kg dry
 Prepared: 3/2/21 16:35

MADEP-EPH Extractable Petroleum Hydrocarbons

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|-----------------|--------------|
| C9-C18 Aliphatics1 | 5670 (334) | | MADEP-EPH | | 20 | AMF | 03/04/21 22:31 | D1C0089 | DC10202 |
| C19-C36 Aliphatics1 | 7490 (334) | | MADEP-EPH | | 20 | AMF | 03/04/21 22:31 | D1C0089 | DC10202 |
| C11-C22 Unadjusted Aromatics1 | 5770 (334) | | EPH8270 | | 20 | AMF | 03/05/21 21:09 | D1C0105 | DC10202 |
| C11-C22 Aromatics1,2 | 5740 (334) | | EPH8270 | | | AMF | 03/05/21 21:09 | | [CALC] |

| | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|--------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1-Chlorooctadecane</i> | % | SD | 40-140 |
| <i>Surrogate: 2-Bromonaphthalene</i> | 114 % | | 40-140 |
| <i>Surrogate: 2-Fluorobiphenyl</i> | 113 % | | 40-140 |
| <i>Surrogate: O-Terphenyl</i> | 82 % | | 40-140 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: MEC - 131 Morse St Foxborough MA
Client Sample ID: PX-5
Date Sampled: 02/24/21 14:20
Percent Solids: 83
Initial Volume: 24.4
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 21C0073
ESS Laboratory Sample ID: 21C0073-05
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/2/21 16:35

MADEP-EPH Extractable Petroleum Hydrocarbons

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|-----------------|--------------|
| C9-C18 Aliphatics1 | 7170 (370) | | MADEP-EPH | | 20 | AMF | 03/04/21 23:19 | D1C0089 | DC10202 |
| C19-C36 Aliphatics1 | 8980 (370) | | MADEP-EPH | | 20 | AMF | 03/04/21 23:19 | D1C0089 | DC10202 |
| C11-C22 Unadjusted Aromatics1 | 7080 (370) | | EPH8270 | | 20 | AMF | 03/05/21 22:21 | D1C0105 | DC10202 |
| C11-C22 Aromatics1,2 | 7030 (370) | | EPH8270 | | | AMF | 03/05/21 22:21 | | [CALC] |

| | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|--------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1-Chlorooctadecane</i> | % | SD | 40-140 |
| <i>Surrogate: 2-Bromonaphthalene</i> | 121 % | | 40-140 |
| <i>Surrogate: 2-Fluorobiphenyl</i> | 112 % | | 40-140 |
| <i>Surrogate: O-Terphenyl</i> | 85 % | | 40-140 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: MEC - 131 Morse St Foxborough MA
Client Sample ID: PX-6
Date Sampled: 02/24/21 14:25
Percent Solids: 95
Initial Volume: 24.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 21C0073
ESS Laboratory Sample ID: 21C0073-06
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 3/2/21 16:35

MADEP-EPH Extractable Petroleum Hydrocarbons

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|-----------------|--------------|
| C9-C18 Aliphatics1 | 3990 (326) | | MADEP-EPH | | 20 | AMF | 03/05/21 0:08 | D1C0089 | DC10202 |
| C19-C36 Aliphatics1 | 5260 (326) | | MADEP-EPH | | 20 | AMF | 03/05/21 0:08 | D1C0089 | DC10202 |
| C11-C22 Unadjusted Aromatics1 | 2310 (163) | | EPH8270 | | 10 | AMF | 03/09/21 11:28 | D1C0148 | DC10202 |
| C11-C22 Aromatics1,2 | 2310 (163) | | EPH8270 | | | AMF | 03/09/21 11:28 | | [CALC] |

| | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|--------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1-Chlorooctadecane</i> | % | SD | 40-140 |
| <i>Surrogate: 2-Bromonaphthalene</i> | 85 % | | 40-140 |
| <i>Surrogate: 2-Fluorobiphenyl</i> | 81 % | | 40-140 |
| <i>Surrogate: O-Terphenyl</i> | 60 % | | 40-140 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 21C0073

Quality Control Data

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

MADEP-EPH Extractable Petroleum Hydrocarbons

Batch DC10202 - 3546

Blank

| | | | | | | | | | | |
|-----------------------|----|------|-----------|--|--|--|--|--|--|--|
| C19-C36 Aliphatics1 | ND | 15.0 | mg/kg wet | | | | | | | |
| C9-C18 Aliphatics1 | ND | 15.0 | mg/kg wet | | | | | | | |
| Decane (C10) | ND | 0.5 | mg/kg wet | | | | | | | |
| Docosane (C22) | ND | 0.5 | mg/kg wet | | | | | | | |
| Dodecane (C12) | ND | 0.5 | mg/kg wet | | | | | | | |
| Eicosane (C20) | ND | 0.5 | mg/kg wet | | | | | | | |
| Hexacosane (C26) | ND | 0.5 | mg/kg wet | | | | | | | |
| Hexadecane (C16) | ND | 0.5 | mg/kg wet | | | | | | | |
| Hexatriacontane (C36) | ND | 0.5 | mg/kg wet | | | | | | | |
| Nonadecane (C19) | ND | 0.5 | mg/kg wet | | | | | | | |
| Nonane (C9) | ND | 0.5 | mg/kg wet | | | | | | | |
| Octacosane (C28) | ND | 0.5 | mg/kg wet | | | | | | | |
| Octadecane (C18) | ND | 0.5 | mg/kg wet | | | | | | | |
| Tetracosane (C24) | ND | 0.5 | mg/kg wet | | | | | | | |
| Tetradecane (C14) | ND | 0.5 | mg/kg wet | | | | | | | |
| Triacontane (C30) | ND | 0.5 | mg/kg wet | | | | | | | |

| | | | | | | | | | | |
|--------------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|
| <i>Surrogate: 1-Chlorooctadecane</i> | <i>1.40</i> | | mg/kg wet | <i>2.000</i> | | <i>70</i> | <i>40-140</i> | | | |
|--------------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|

Blank

| | | | | | | | | | | |
|-------------------------------|----|------|-----------|--|--|--|--|--|--|--|
| 2-Methylnaphthalene | ND | 0.20 | mg/kg wet | | | | | | | |
| Acenaphthene | ND | 0.40 | mg/kg wet | | | | | | | |
| Acenaphthylene | ND | 0.20 | mg/kg wet | | | | | | | |
| Anthracene | ND | 0.40 | mg/kg wet | | | | | | | |
| Benzo(a)anthracene | ND | 0.40 | mg/kg wet | | | | | | | |
| Benzo(a)pyrene | ND | 0.40 | mg/kg wet | | | | | | | |
| Benzo(b)fluoranthene | ND | 0.40 | mg/kg wet | | | | | | | |
| Benzo(g,h,i)perylene | ND | 0.40 | mg/kg wet | | | | | | | |
| Benzo(k)fluoranthene | ND | 0.40 | mg/kg wet | | | | | | | |
| C11-C22 Unadjusted Aromatics1 | ND | 15.0 | mg/kg wet | | | | | | | |
| Chrysene | ND | 0.40 | mg/kg wet | | | | | | | |
| Dibenzo(a,h)Anthracene | ND | 0.20 | mg/kg wet | | | | | | | |
| Fluoranthene | ND | 0.40 | mg/kg wet | | | | | | | |
| Fluorene | ND | 0.40 | mg/kg wet | | | | | | | |
| Indeno(1,2,3-cd)Pyrene | ND | 0.40 | mg/kg wet | | | | | | | |
| Naphthalene | ND | 0.40 | mg/kg wet | | | | | | | |
| Phenanthrene | ND | 0.40 | mg/kg wet | | | | | | | |
| Pyrene | ND | 0.40 | mg/kg wet | | | | | | | |

| | | | | | | | | | | |
|--------------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|
| <i>Surrogate: 2-Bromonaphthalene</i> | <i>1.35</i> | | mg/kg wet | <i>2.000</i> | | <i>68</i> | <i>40-140</i> | | | |
|--------------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|

| | | | | | | | | | | |
|------------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|
| <i>Surrogate: 2-Fluorobiphenyl</i> | <i>1.45</i> | | mg/kg wet | <i>2.000</i> | | <i>73</i> | <i>40-140</i> | | | |
|------------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|

| | | | | | | | | | | |
|-------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|
| <i>Surrogate: O-Terphenyl</i> | <i>1.73</i> | | mg/kg wet | <i>2.000</i> | | <i>87</i> | <i>40-140</i> | | | |
|-------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|

LCS

| | | | | | | | | | | |
|---------------------|------|------|-----------|-------|--|----|--------|--|--|--|
| C19-C36 Aliphatics1 | 13.3 | 15.0 | mg/kg wet | 16.00 | | 83 | 40-140 | | | |
| C9-C18 Aliphatics1 | 7.8 | 15.0 | mg/kg wet | 12.00 | | 65 | 40-140 | | | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 21C0073

Quality Control Data

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---|-------------|------|-----------|--------------|---------------|-----------|---------------|-----|-----------|-----------|
| MADEP-EPH Extractable Petroleum Hydrocarbons | | | | | | | | | | |
| Batch DC10202 - 3546 | | | | | | | | | | |
| Decane (C10) | 0.9 | 0.5 | mg/kg wet | 2.000 | | 47 | 40-140 | | | |
| Docosane (C22) | 1.5 | 0.5 | mg/kg wet | 2.000 | | 75 | 40-140 | | | |
| Dodecane (C12) | 1.1 | 0.5 | mg/kg wet | 2.000 | | 53 | 40-140 | | | |
| Eicosane (C20) | 1.5 | 0.5 | mg/kg wet | 2.000 | | 75 | 40-140 | | | |
| Hexacosane (C26) | 1.5 | 0.5 | mg/kg wet | 2.000 | | 75 | 40-140 | | | |
| Hexadecane (C16) | 1.4 | 0.5 | mg/kg wet | 2.000 | | 68 | 40-140 | | | |
| Hexatriacontane (C36) | 1.5 | 0.5 | mg/kg wet | 2.000 | | 77 | 40-140 | | | |
| Nonadecane (C19) | 1.5 | 0.5 | mg/kg wet | 2.000 | | 74 | 40-140 | | | |
| Nonane (C9) | 0.8 | 0.5 | mg/kg wet | 2.000 | | 40 | 30-140 | | | |
| Octacosane (C28) | 1.5 | 0.5 | mg/kg wet | 2.000 | | 76 | 40-140 | | | |
| Octadecane (C18) | 1.4 | 0.5 | mg/kg wet | 2.000 | | 72 | 40-140 | | | |
| Tetracosane (C24) | 1.5 | 0.5 | mg/kg wet | 2.000 | | 75 | 40-140 | | | |
| Tetradecane (C14) | 1.2 | 0.5 | mg/kg wet | 2.000 | | 61 | 40-140 | | | |
| Triacontane (C30) | 1.5 | 0.5 | mg/kg wet | 2.000 | | 75 | 40-140 | | | |
| <i>Surrogate: 1-Chlorooctadecane</i> | <i>1.44</i> | | mg/kg wet | <i>2.000</i> | | <i>72</i> | <i>40-140</i> | | | |
| LCS | | | | | | | | | | |
| 2-Methylnaphthalene | 1.13 | 0.20 | mg/kg wet | 2.000 | | 57 | 40-140 | | | |
| Acenaphthene | 1.49 | 0.40 | mg/kg wet | 2.000 | | 75 | 40-140 | | | |
| Acenaphthylene | 1.30 | 0.20 | mg/kg wet | 2.000 | | 65 | 40-140 | | | |
| Anthracene | 1.81 | 0.40 | mg/kg wet | 2.000 | | 91 | 40-140 | | | |
| Benzo(a)anthracene | 1.52 | 0.40 | mg/kg wet | 2.000 | | 76 | 40-140 | | | |
| Benzo(a)pyrene | 1.76 | 0.40 | mg/kg wet | 2.000 | | 88 | 40-140 | | | |
| Benzo(b)fluoranthene | 1.59 | 0.40 | mg/kg wet | 2.000 | | 79 | 40-140 | | | |
| Benzo(g,h,i)perylene | 1.79 | 0.40 | mg/kg wet | 2.000 | | 90 | 40-140 | | | |
| Benzo(k)fluoranthene | 2.03 | 0.40 | mg/kg wet | 2.000 | | 102 | 40-140 | | | |
| C11-C22 Unadjusted Aromatics1 | 28.0 | 15.0 | mg/kg wet | 34.00 | | 82 | 40-140 | | | |
| Chrysene | 1.97 | 0.40 | mg/kg wet | 2.000 | | 98 | 40-140 | | | |
| Dibenzo(a,h)Anthracene | 1.76 | 0.20 | mg/kg wet | 2.000 | | 88 | 40-140 | | | |
| Fluoranthene | 1.60 | 0.40 | mg/kg wet | 2.000 | | 80 | 40-140 | | | |
| Fluorene | 1.33 | 0.40 | mg/kg wet | 2.000 | | 66 | 40-140 | | | |
| Indeno(1,2,3-cd)Pyrene | 1.66 | 0.40 | mg/kg wet | 2.000 | | 83 | 40-140 | | | |
| Naphthalene | 1.02 | 0.40 | mg/kg wet | 2.000 | | 51 | 40-140 | | | |
| Phenanthrene | 1.43 | 0.40 | mg/kg wet | 2.000 | | 71 | 40-140 | | | |
| Pyrene | 1.76 | 0.40 | mg/kg wet | 2.000 | | 88 | 40-140 | | | |
| <i>Surrogate: 2-Bromonaphthalene</i> | <i>1.25</i> | | mg/kg wet | <i>2.000</i> | | <i>63</i> | <i>40-140</i> | | | |
| <i>Surrogate: 2-Fluorobiphenyl</i> | <i>1.58</i> | | mg/kg wet | <i>2.000</i> | | <i>79</i> | <i>40-140</i> | | | |
| <i>Surrogate: O-Terphenyl</i> | <i>1.81</i> | | mg/kg wet | <i>2.000</i> | | <i>91</i> | <i>40-140</i> | | | |
| LCS | | | | | | | | | | |
| 2-Methylnaphthalene Breakthrough | 0.0 | | % | | | | 0-5 | | | |
| Naphthalene Breakthrough | 0.0 | | % | | | | 0-5 | | | |
| LCS Dup | | | | | | | | | | |
| C19-C36 Aliphatics1 | 13.1 | 15.0 | mg/kg wet | 16.00 | | 82 | 40-140 | 1 | 25 | |
| C9-C18 Aliphatics1 | 7.3 | 15.0 | mg/kg wet | 12.00 | | 61 | 40-140 | 7 | 25 | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 21C0073

Quality Control Data

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

MADEP-EPH Extractable Petroleum Hydrocarbons

Batch DC10202 - 3546

| | | | | | | | | | | |
|-----------------------|-----|-----|-----------|-------|--|----|--------|-----|----|--|
| Decane (C10) | 0.9 | 0.5 | mg/kg wet | 2.000 | | 45 | 40-140 | 5 | 25 | |
| Docosane (C22) | 1.5 | 0.5 | mg/kg wet | 2.000 | | 76 | 40-140 | 0.3 | 25 | |
| Dodecane (C12) | 1.0 | 0.5 | mg/kg wet | 2.000 | | 50 | 40-140 | 6 | 25 | |
| Eicosane (C20) | 1.5 | 0.5 | mg/kg wet | 2.000 | | 74 | 40-140 | 0.1 | 25 | |
| Hexacosane (C26) | 1.5 | 0.5 | mg/kg wet | 2.000 | | 75 | 40-140 | 0.2 | 25 | |
| Hexadecane (C16) | 1.3 | 0.5 | mg/kg wet | 2.000 | | 66 | 40-140 | 3 | 25 | |
| Hexatriacontane (C36) | 1.5 | 0.5 | mg/kg wet | 2.000 | | 77 | 40-140 | 0.7 | 25 | |
| Nonadecane (C19) | 1.5 | 0.5 | mg/kg wet | 2.000 | | 74 | 40-140 | 0.3 | 25 | |
| Nonane (C9) | 0.8 | 0.5 | mg/kg wet | 2.000 | | 38 | 30-140 | 5 | 25 | |
| Octacosane (C28) | 1.5 | 0.5 | mg/kg wet | 2.000 | | 76 | 40-140 | 0.3 | 25 | |
| Octadecane (C18) | 1.4 | 0.5 | mg/kg wet | 2.000 | | 72 | 40-140 | 0.4 | 25 | |
| Tetracosane (C24) | 1.5 | 0.5 | mg/kg wet | 2.000 | | 75 | 40-140 | 0.1 | 25 | |
| Tetradecane (C14) | 1.1 | 0.5 | mg/kg wet | 2.000 | | 57 | 40-140 | 6 | 25 | |
| Triacontane (C30) | 1.5 | 0.5 | mg/kg wet | 2.000 | | 75 | 40-140 | 0.2 | 25 | |

| | | | | | | | | | | |
|--------------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|
| <i>Surrogate: 1-Chlorooctadecane</i> | <i>1.41</i> | | mg/kg wet | <i>2.000</i> | | <i>71</i> | <i>40-140</i> | | | |
|--------------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|

LCS Dup

| | | | | | | | | | | |
|-------------------------------|------|------|-----------|-------|--|-----|--------|------|----|--|
| 2-Methylnaphthalene | 1.03 | 0.20 | mg/kg wet | 2.000 | | 52 | 40-140 | 9 | 30 | |
| Acenaphthene | 1.53 | 0.40 | mg/kg wet | 2.000 | | 77 | 40-140 | 3 | 30 | |
| Acenaphthylene | 1.17 | 0.20 | mg/kg wet | 2.000 | | 58 | 40-140 | 11 | 30 | |
| Anthracene | 1.91 | 0.40 | mg/kg wet | 2.000 | | 95 | 40-140 | 5 | 30 | |
| Benzo(a)anthracene | 1.59 | 0.40 | mg/kg wet | 2.000 | | 79 | 40-140 | 4 | 30 | |
| Benzo(a)pyrene | 1.84 | 0.40 | mg/kg wet | 2.000 | | 92 | 40-140 | 4 | 30 | |
| Benzo(b)fluoranthene | 1.59 | 0.40 | mg/kg wet | 2.000 | | 79 | 40-140 | 0.08 | 30 | |
| Benzo(g,h,i)perylene | 1.94 | 0.40 | mg/kg wet | 2.000 | | 97 | 40-140 | 8 | 30 | |
| Benzo(k)fluoranthene | 2.11 | 0.40 | mg/kg wet | 2.000 | | 105 | 40-140 | 4 | 30 | |
| C11-C22 Unadjusted Aromatics1 | 29.1 | 15.0 | mg/kg wet | 34.00 | | 86 | 40-140 | 4 | 25 | |
| Chrysene | 2.09 | 0.40 | mg/kg wet | 2.000 | | 104 | 40-140 | 6 | 30 | |
| Dibenzo(a,h)Anthracene | 1.82 | 0.20 | mg/kg wet | 2.000 | | 91 | 40-140 | 4 | 30 | |
| Fluoranthene | 1.68 | 0.40 | mg/kg wet | 2.000 | | 84 | 40-140 | 5 | 30 | |
| Fluorene | 1.37 | 0.40 | mg/kg wet | 2.000 | | 69 | 40-140 | 3 | 30 | |
| Indeno(1,2,3-cd)Pyrene | 1.71 | 0.40 | mg/kg wet | 2.000 | | 85 | 40-140 | 3 | 30 | |
| Naphthalene | 0.99 | 0.40 | mg/kg wet | 2.000 | | 50 | 40-140 | 3 | 30 | |
| Phenanthrene | 1.47 | 0.40 | mg/kg wet | 2.000 | | 74 | 40-140 | 3 | 30 | |
| Pyrene | 1.87 | 0.40 | mg/kg wet | 2.000 | | 94 | 40-140 | 6 | 30 | |

| | | | | | | | | | | |
|--------------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|
| <i>Surrogate: 2-Bromonaphthalene</i> | <i>1.27</i> | | mg/kg wet | <i>2.000</i> | | <i>63</i> | <i>40-140</i> | | | |
| <i>Surrogate: 2-Fluorobiphenyl</i> | <i>1.52</i> | | mg/kg wet | <i>2.000</i> | | <i>76</i> | <i>40-140</i> | | | |
| <i>Surrogate: O-Terphenyl</i> | <i>1.89</i> | | mg/kg wet | <i>2.000</i> | | <i>95</i> | <i>40-140</i> | | | |

LCS Dup

| | | | | | | | | | | |
|----------------------------------|-----|--|---|--|--|--|-----|--|-----|--|
| 2-Methylnaphthalene Breakthrough | 0.0 | | % | | | | 0-5 | | 200 | |
| Naphthalene Breakthrough | 0.0 | | % | | | | 0-5 | | 200 | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 21C0073

Notes and Definitions

- U Analyte included in the analysis, but not detected
- SD Surrogate recovery(ies) diluted below the MRL (SD).
- D Diluted.
- CD+ Continuing Calibration %Diff/Drift is above control limit (CD+).
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit
- MF Membrane Filtration
- MPN Most Probably Number
- TNTC Too numerous to Count
- CFU Colony Forming Units



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 21C0073

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tighe & Bond - KP/KB/TB

ESS Project ID: 21C0073

Date Received: 3/2/2021

Shipped/Delivered Via: ESS Courier

Project Due Date: 3/9/2021

Days for Project: 5 Day

1. Air bill manifest present? No
Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
Temp: 0.4 Iced with: Ice
5. Was COC signed and dated by client? Yes

6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. Were labs informed about **short holds & rushes**? Yes / No / NA
10. Were any analyses received outside of hold time? Yes No

11. Any Subcontracting needed? Yes No
ESS Sample IDs: _____
Analysis: _____
TAT: _____

12. Were VOAs received? Yes No
a. Air bubbles in aqueous VOAs? Yes / No
b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved? Yes No
a. If metals preserved upon receipt: Date: _____ Time: _____ By: _____
b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / No
a. Was there a need to contact the client? Yes / No
Who was contacted? _____ Date: _____ Time: _____ By: _____

| Sample Number | Container ID | Proper Container | Air Bubbles Present | Sufficient Volume | Container Type | Preservative | Record pH (Cyanide and 608 Pesticides) |
|---------------|--------------|------------------|---------------------|-------------------|----------------|--------------|--|
| 1 | 139689 | Yes | N/A | Yes | 8 oz jar | NP | |
| 2 | 139690 | Yes | N/A | Yes | 8 oz jar | NP | |
| 3 | 139691 | Yes | N/A | Yes | 8 oz jar | NP | |
| 4 | 139692 | Yes | N/A | Yes | 8 oz jar | NP | |
| 5 | 139693 | Yes | N/A | Yes | 8 oz jar | NP | |
| 6 | 139694 | Yes | N/A | Yes | 8 oz jar | NP | |

2nd Review

Were all containers scanned into storage/lab?

Initials AG
 Yes / No
 Yes / No / NA
 Yes / No / NA
 Yes / No / NA
 Yes / No / NA

- Are barcode labels on correct containers?
 Are all Flashpoint stickers attached/container ID # circled?
 Are all Hex Chrome stickers attached?
 Are all QC stickers attached?
 Are VOA stickers attached if bubbles noted?

Completed

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tighe & Bond - KPBTB

ESS Project ID: 21C0073

By: *Samuel Garcia*

Date Received: 3/2/2021

Date & Time: 3/2/21 16:01

Reviewed By: *[Signature]*


Date & Time: 3/2/21 1609

CERTIFICATE OF ANALYSIS

Matt Abraham
Tighe & Bond
120 Front Street, Suite 7
Worcester, MA 01608

RE: NGrid - 131 Morse St (N-5067-084)
ESS Laboratory Work Order Number: 21L1079

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard
Laboratory Director

REVIEWED**By ESS Laboratory at 5:59 pm, Jan 13, 2022****Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St

ESS Laboratory Work Order: 21L1079

SAMPLE RECEIPT

The following samples were received on December 30, 2021 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Question I: All samples for EPH were analyzed for a subset of the required MCP list per the client's request.

GC-FID Fingerprint

The sample produced a chromatogram that contained material eluting in the mid to high molecular weight ranges of the chromatogram. Examples of similar material eluting in these ranges are hydraulic, transformer, motor and lubricating oils.

| Lab Number | Sample Name | Matrix | Analysis |
|-------------------|--------------------|---------------|---------------------------|
| 21L1079-01 | B-1 2.5-5ft | Soil | EPH8270, MADEP-EPH |
| 21L1079-02 | B-2 2.5-5ft | Soil | EPH8270, MADEP-EPH |
| 21L1079-03 | B-2 5-7ft | Soil | EPH8270, MADEP-EPH |
| 21L1079-04 | B-3 2-5ft | Soil | EPH8270, MADEP-EPH, SUB |
| 21L1079-05 | B-3 5-7ft | Soil | 8100M, EPH8270, MADEP-EPH |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St

ESS Laboratory Work Order: 21L1079

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St

ESS Laboratory Work Order: 21L1079

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015C - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH
- MADEP 18-2.1 - VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St

ESS Laboratory Work Order: 21L1079

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **21L1079-01 through 21L1079-05**

Matrices: Ground Water/Surface Water Soil/Sediment Drinking Water Air Other: _____

CAM Protocol (check all that apply below):

- | | | | | | |
|---|--|--|---|--|---|
| <input type="checkbox"/> 8260 VOC CAM II A | <input type="checkbox"/> 7470/7471 Hg CAM III B | <input type="checkbox"/> MassDEP VPH (GC/PID/FID) CAM IV A | <input type="checkbox"/> 8082 PCB CAM V A | <input type="checkbox"/> 9014 Total Cyanide/PAC CAM VI A | <input type="checkbox"/> 6860 Perchlorate CAM VIII B |
| <input type="checkbox"/> 8270 SVOC CAM II B | <input type="checkbox"/> 7010 Metals CAM III C | <input type="checkbox"/> MassDEP VPH (GC/MS) CAM IV C | <input type="checkbox"/> 8081 Pesticides CAM V B | <input type="checkbox"/> 7196 Hex Cr CAM VI B | <input type="checkbox"/> MassDEP APH CAM IX A |
| <input type="checkbox"/> 6010 Metals CAM III A | <input type="checkbox"/> 6020 Metals CAM III D | <input checked="" type="checkbox"/> MassDEP EPH CAM IV B | <input type="checkbox"/> 8151 Herbicides CAM V C | <input type="checkbox"/> Explosives CAM VIII A | <input type="checkbox"/> TO-15 VOC CAM IX B |

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

- A Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? Yes No
- B Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? Yes No
- C Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? Yes No
- D Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? Yes No
- E VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). Yes No
b. APH and TO-15 Methods only: Was the complete analyte list reported for each method? Yes No
- F Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? Yes No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

- G Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? Yes No *
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.
- H Were all QC performance standards specified in the CAM protocol(s) achieved? Yes No *
- I Were results reported for the complete analyte list specified in the selected CAM protocol(s)? Yes No *

**All negative responses must be addressed in an attached laboratory narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard
Printed Name: Laurel Stoddard

Date: January 13, 2022
Position: Laboratory Director



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
 Client Project ID: NGrid - 131 Morse St
 Client Sample ID: B-1 2.5-5ft
 Date Sampled: 12/29/21 09:40
 Percent Solids: 82
 Initial Volume: 25.2
 Final Volume: 1
 Extraction Method: 3546

ESS Laboratory Work Order: 21L1079
 ESS Laboratory Sample ID: 21L1079-01
 Sample Matrix: Soil
 Units: mg/kg dry

Prepared: 1/3/22 17:00

MADEP-EPH Extractable Petroleum Hydrocarbons

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|-----------------|--------------|
| C9-C18 Aliphatics1 | ND (18.1) | | MADEP-EPH | | 1 | MJV | 01/05/22 11:50 | D2A0058 | DA20331 |
| C19-C36 Aliphatics1 | ND (18.1) | | MADEP-EPH | | 1 | MJV | 01/05/22 11:50 | D2A0058 | DA20331 |
| C11-C22 Unadjusted Aromatics1 | ND (18.1) | | EPH8270 | | 1 | MJV | 01/05/22 13:30 | D2A0042 | DA20331 |
| C11-C22 Aromatics1,2 | ND (18.1) | | EPH8270 | | | MJV | 01/05/22 13:30 | | [CALC] |

| | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|--------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1-Chlorooctadecane</i> | 73 % | | 40-140 |
| <i>Surrogate: 2-Bromonaphthalene</i> | 87 % | | 40-140 |
| <i>Surrogate: 2-Fluorobiphenyl</i> | 83 % | | 40-140 |
| <i>Surrogate: O-Terphenyl</i> | 72 % | | 40-140 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
 Client Project ID: NGrid - 131 Morse St
 Client Sample ID: B-2 2.5-5ft
 Date Sampled: 12/29/21 09:20
 Percent Solids: 83
 Initial Volume: 24.5
 Final Volume: 1
 Extraction Method: 3546

ESS Laboratory Work Order: 21L1079
 ESS Laboratory Sample ID: 21L1079-02
 Sample Matrix: Soil
 Units: mg/kg dry

Prepared: 1/3/22 17:00

MADEP-EPH Extractable Petroleum Hydrocarbons

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|-----------------|--------------|
| C9-C18 Aliphatics1 | ND (18.4) | | MADEP-EPH | | 1 | MJV | 01/05/22 12:25 | D2A0058 | DA20331 |
| C19-C36 Aliphatics1 | ND (18.4) | | MADEP-EPH | | 1 | MJV | 01/05/22 12:25 | D2A0058 | DA20331 |
| C11-C22 Unadjusted Aromatics1 | ND (18.4) | | EPH8270 | | 1 | MJV | 01/05/22 14:07 | D2A0042 | DA20331 |
| C11-C22 Aromatics1,2 | ND (18.4) | | EPH8270 | | | MJV | 01/05/22 14:07 | | [CALC] |

| | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|--------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1-Chlorooctadecane</i> | 81 % | | 40-140 |
| <i>Surrogate: 2-Bromonaphthalene</i> | 89 % | | 40-140 |
| <i>Surrogate: 2-Fluorobiphenyl</i> | 80 % | | 40-140 |
| <i>Surrogate: O-Terphenyl</i> | 82 % | | 40-140 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
 Client Project ID: NGrid - 131 Morse St
 Client Sample ID: B-2 5-7ft
 Date Sampled: 12/29/21 09:48
 Percent Solids: 73
 Initial Volume: 24.3
 Final Volume: 1
 Extraction Method: 3546

ESS Laboratory Work Order: 21L1079
 ESS Laboratory Sample ID: 21L1079-03
 Sample Matrix: Soil
 Units: mg/kg dry
 Prepared: 1/3/22 17:00

MADEP-EPH Extractable Petroleum Hydrocarbons

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|--------------------------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|-----------------|--------------|
| C9-C18 Aliphatics1 | ND (21.3) | | MADEP-EPH | | 1 | MJV | 01/05/22 13:00 | D2A0058 | DA20331 |
| C19-C36 Aliphatics1 | ND (21.3) | | MADEP-EPH | | 1 | MJV | 01/05/22 13:00 | D2A0058 | DA20331 |
| C11-C22 Unadjusted Aromatics1 | 214 (21.3) | | EPH8270 | | 1 | MJV | 01/06/22 5:09 | D2A0042 | DA20331 |
| C11-C22 Aromatics1,2 | 151 (21.3) | | EPH8270 | | | MJV | 01/06/22 22:16 | | [CALC] |

| | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|--------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1-Chlorooctadecane</i> | 71 % | | 40-140 |
| <i>Surrogate: 2-Bromonaphthalene</i> | 78 % | | 40-140 |
| <i>Surrogate: 2-Fluorobiphenyl</i> | 76 % | | 40-140 |
| <i>Surrogate: O-Terphenyl</i> | 62 % | | 40-140 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
 Client Project ID: NGrid - 131 Morse St
 Client Sample ID: B-3 2-5ft
 Date Sampled: 12/29/21 11:22
 Percent Solids: 92
 Initial Volume: 24.4
 Final Volume: 1
 Extraction Method: 3546

ESS Laboratory Work Order: 21L1079
 ESS Laboratory Sample ID: 21L1079-04
 Sample Matrix: Soil
 Units: mg/kg dry

Prepared: 1/3/22 17:00

MADEP-EPH Extractable Petroleum Hydrocarbons

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|-----------------|--------------|
| C9-C18 Aliphatics1 | 85.1 (16.7) | | MADEP-EPH | | 1 | MJV | 01/05/22 13:34 | D2A0058 | DA20331 |
| C19-C36 Aliphatics1 | 99.9 (16.7) | | MADEP-EPH | | 1 | MJV | 01/05/22 13:34 | D2A0058 | DA20331 |
| C11-C22 Unadjusted Aromatics1 | 53.7 (16.7) | | EPH8270 | | 1 | MJV | 01/05/22 14:45 | D2A0042 | DA20331 |
| C11-C22 Aromatics1,2 | 53.7 (16.7) | | EPH8270 | | | MJV | 01/05/22 14:45 | | [CALC] |

| | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|--------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1-Chlorooctadecane</i> | 70 % | | 40-140 |
| <i>Surrogate: 2-Bromonaphthalene</i> | 89 % | | 40-140 |
| <i>Surrogate: 2-Fluorobiphenyl</i> | 84 % | | 40-140 |
| <i>Surrogate: O-Terphenyl</i> | 74 % | | 40-140 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St
Client Sample ID: B-3 2-5ft
Date Sampled: 12/29/21 11:22

ESS Laboratory Work Order: 21L1079
ESS Laboratory Sample ID: 21L1079-04
Sample Matrix: Soil

Subcontracted Analysis

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|----------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Grain Size | See Attached (N/A) | | | | | | | | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St
Client Sample ID: B-3 5-7ft
Date Sampled: 12/29/21 11:45
Percent Solids: 87
Initial Volume: 19.4
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 21L1079
ESS Laboratory Sample ID: 21L1079-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: BXX
Prepared: 1/5/22 20:10

8100M Total Petroleum Hydrocarbons

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------------|-----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons | 823 (11.8) | | 8100M | | 1 | 01/06/22 14:44 | D2A0109 | DA20507 |
| Fingerprint | See Project Narrative | | | | | | | |

| | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-------------------------------|------------------|------------------|---------------|
| <i>Surrogate: O-Terphenyl</i> | 78 % | | 40-140 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St
Client Sample ID: B-3 5-7ft
Date Sampled: 12/29/21 11:45
Percent Solids: 87
Initial Volume: 24.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 21L1079
ESS Laboratory Sample ID: 21L1079-05
Sample Matrix: Soil
Units: mg/kg dry

Prepared: 1/3/22 17:00

MADEP-EPH Extractable Petroleum Hydrocarbons

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|-----------------|--------------|
| C9-C18 Aliphatics1 | 128 (17.7) | | MADEP-EPH | | 1 | MJV | 01/05/22 14:09 | D2A0058 | DA20331 |
| C19-C36 Aliphatics1 | 145 (17.7) | | MADEP-EPH | | 1 | MJV | 01/05/22 14:09 | D2A0058 | DA20331 |
| C11-C22 Unadjusted Aromatics1 | 86.1 (17.7) | | EPH8270 | | 1 | MJV | 01/05/22 15:23 | D2A0042 | DA20331 |
| C11-C22 Aromatics1,2 | 86.1 (17.7) | | EPH8270 | | | MJV | 01/05/22 15:23 | | [CALC] |

| | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|--------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1-Chlorooctadecane</i> | 77 % | | 40-140 |
| <i>Surrogate: 2-Bromonaphthalene</i> | 85 % | | 40-140 |
| <i>Surrogate: 2-Fluorobiphenyl</i> | 81 % | | 40-140 |
| <i>Surrogate: O-Terphenyl</i> | 74 % | | 40-140 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St

ESS Laboratory Work Order: 21L1079

Quality Control Data

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

8100M Total Petroleum Hydrocarbons

Batch DA20507 - 3546

Blank

| | | | | | | | | | | |
|------------------------------|----|------|-----------|--|--|--|--|--|--|--|
| Decane (C10) | ND | 0.2 | mg/kg wet | | | | | | | |
| Docosane (C22) | ND | 0.2 | mg/kg wet | | | | | | | |
| Dodecane (C12) | ND | 0.2 | mg/kg wet | | | | | | | |
| Eicosane (C20) | ND | 0.2 | mg/kg wet | | | | | | | |
| Hexacosane (C26) | ND | 0.2 | mg/kg wet | | | | | | | |
| Hexadecane (C16) | ND | 0.2 | mg/kg wet | | | | | | | |
| Hexatriacontane (C36) | ND | 0.2 | mg/kg wet | | | | | | | |
| Nonadecane (C19) | ND | 0.2 | mg/kg wet | | | | | | | |
| Nonane (C9) | ND | 0.2 | mg/kg wet | | | | | | | |
| Octacosane (C28) | ND | 0.2 | mg/kg wet | | | | | | | |
| Octadecane (C18) | ND | 0.2 | mg/kg wet | | | | | | | |
| Tetracosane (C24) | ND | 0.2 | mg/kg wet | | | | | | | |
| Tetradecane (C14) | ND | 0.2 | mg/kg wet | | | | | | | |
| Total Petroleum Hydrocarbons | ND | 10.0 | mg/kg wet | | | | | | | |
| Triacontane (C30) | ND | 0.2 | mg/kg wet | | | | | | | |

| | | | | | | | | | | |
|-------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|
| <i>Surrogate: O-Terphenyl</i> | <i>3.99</i> | | mg/kg wet | <i>5.000</i> | | <i>80</i> | <i>40-140</i> | | | |
|-------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|

LCS

| | | | | | | | | | | |
|------------------------------|------|------|-----------|-------|--|----|--------|--|--|--|
| Decane (C10) | 1.6 | 0.2 | mg/kg wet | 2.500 | | 65 | 40-140 | | | |
| Docosane (C22) | 2.1 | 0.2 | mg/kg wet | 2.500 | | 85 | 40-140 | | | |
| Dodecane (C12) | 1.7 | 0.2 | mg/kg wet | 2.500 | | 69 | 40-140 | | | |
| Eicosane (C20) | 2.1 | 0.2 | mg/kg wet | 2.500 | | 86 | 40-140 | | | |
| Hexacosane (C26) | 2.2 | 0.2 | mg/kg wet | 2.500 | | 87 | 40-140 | | | |
| Hexadecane (C16) | 2.0 | 0.2 | mg/kg wet | 2.500 | | 80 | 40-140 | | | |
| Hexatriacontane (C36) | 2.4 | 0.2 | mg/kg wet | 2.500 | | 97 | 40-140 | | | |
| Nonadecane (C19) | 2.2 | 0.2 | mg/kg wet | 2.500 | | 87 | 40-140 | | | |
| Nonane (C9) | 1.5 | 0.2 | mg/kg wet | 2.500 | | 60 | 30-140 | | | |
| Octacosane (C28) | 2.1 | 0.2 | mg/kg wet | 2.500 | | 86 | 40-140 | | | |
| Octadecane (C18) | 2.1 | 0.2 | mg/kg wet | 2.500 | | 84 | 40-140 | | | |
| Tetracosane (C24) | 1.9 | 0.2 | mg/kg wet | 2.500 | | 77 | 40-140 | | | |
| Tetradecane (C14) | 1.9 | 0.2 | mg/kg wet | 2.500 | | 75 | 40-140 | | | |
| Total Petroleum Hydrocarbons | 29.4 | 10.0 | mg/kg wet | 35.00 | | 84 | 40-140 | | | |
| Triacontane (C30) | 2.2 | 0.2 | mg/kg wet | 2.500 | | 87 | 40-140 | | | |

| | | | | | | | | | | |
|-------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|
| <i>Surrogate: O-Terphenyl</i> | <i>4.08</i> | | mg/kg wet | <i>5.000</i> | | <i>82</i> | <i>40-140</i> | | | |
|-------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|

LCS Dup

| | | | | | | | | | | |
|-----------------------|-----|-----|-----------|-------|--|-----|--------|---|----|--|
| Decane (C10) | 1.7 | 0.2 | mg/kg wet | 2.500 | | 70 | 40-140 | 7 | 25 | |
| Docosane (C22) | 2.2 | 0.2 | mg/kg wet | 2.500 | | 89 | 40-140 | 4 | 25 | |
| Dodecane (C12) | 1.8 | 0.2 | mg/kg wet | 2.500 | | 73 | 40-140 | 6 | 25 | |
| Eicosane (C20) | 2.2 | 0.2 | mg/kg wet | 2.500 | | 90 | 40-140 | 5 | 25 | |
| Hexacosane (C26) | 2.3 | 0.2 | mg/kg wet | 2.500 | | 91 | 40-140 | 5 | 25 | |
| Hexadecane (C16) | 2.1 | 0.2 | mg/kg wet | 2.500 | | 85 | 40-140 | 6 | 25 | |
| Hexatriacontane (C36) | 2.6 | 0.2 | mg/kg wet | 2.500 | | 102 | 40-140 | 5 | 25 | |
| Nonadecane (C19) | 2.3 | 0.2 | mg/kg wet | 2.500 | | 94 | 40-140 | 7 | 25 | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St

ESS Laboratory Work Order: 21L1079

Quality Control Data

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

8100M Total Petroleum Hydrocarbons

Batch DA20507 - 3546

| | | | | | | | | | | |
|------------------------------|------|------|-----------|-------|--|----|--------|---|----|--|
| Nonane (C9) | 1.6 | 0.2 | mg/kg wet | 2.500 | | 63 | 30-140 | 4 | 25 | |
| Octacosane (C28) | 2.3 | 0.2 | mg/kg wet | 2.500 | | 90 | 40-140 | 5 | 25 | |
| Octadecane (C18) | 2.2 | 0.2 | mg/kg wet | 2.500 | | 88 | 40-140 | 5 | 25 | |
| Tetracosane (C24) | 2.0 | 0.2 | mg/kg wet | 2.500 | | 81 | 40-140 | 5 | 25 | |
| Tetradecane (C14) | 2.0 | 0.2 | mg/kg wet | 2.500 | | 80 | 40-140 | 6 | 25 | |
| Total Petroleum Hydrocarbons | 31.0 | 10.0 | mg/kg wet | 35.00 | | 89 | 40-140 | 5 | 25 | |
| Triacontane (C30) | 2.3 | 0.2 | mg/kg wet | 2.500 | | 91 | 40-140 | 5 | 25 | |

Surrogate: O-Terphenyl

4.20 mg/kg wet 5.000 84 40-140

MADEP-EPH Extractable Petroleum Hydrocarbons

Batch DA20331 - 3546

| Blank | | | | | | | | | | |
|-----------------------|----|------|-----------|--|--|--|--|--|--|--|
| C19-C36 Aliphatics1 | ND | 15.0 | mg/kg wet | | | | | | | |
| C9-C18 Aliphatics1 | ND | 15.0 | mg/kg wet | | | | | | | |
| Decane (C10) | ND | 0.5 | mg/kg wet | | | | | | | |
| Docosane (C22) | ND | 0.5 | mg/kg wet | | | | | | | |
| Dodecane (C12) | ND | 0.5 | mg/kg wet | | | | | | | |
| Eicosane (C20) | ND | 0.5 | mg/kg wet | | | | | | | |
| Hexacosane (C26) | ND | 0.5 | mg/kg wet | | | | | | | |
| Hexadecane (C16) | ND | 0.5 | mg/kg wet | | | | | | | |
| Hexatriacontane (C36) | ND | 0.5 | mg/kg wet | | | | | | | |
| Nonadecane (C19) | ND | 0.5 | mg/kg wet | | | | | | | |
| Nonane (C9) | ND | 0.5 | mg/kg wet | | | | | | | |
| Octacosane (C28) | ND | 0.5 | mg/kg wet | | | | | | | |
| Octadecane (C18) | ND | 0.5 | mg/kg wet | | | | | | | |
| Tetracosane (C24) | ND | 0.5 | mg/kg wet | | | | | | | |
| Tetradecane (C14) | ND | 0.5 | mg/kg wet | | | | | | | |
| Triacontane (C30) | ND | 0.5 | mg/kg wet | | | | | | | |

Surrogate: 1-Chlorooctadecane

1.74 mg/kg wet 2.000 87 40-140

| Blank | | | | | | | | | | |
|-------------------------------|----|------|-----------|--|--|--|--|--|--|--|
| 2-Methylnaphthalene | ND | 0.20 | mg/kg wet | | | | | | | |
| Acenaphthene | ND | 0.40 | mg/kg wet | | | | | | | |
| Acenaphthylene | ND | 0.20 | mg/kg wet | | | | | | | |
| Anthracene | ND | 0.40 | mg/kg wet | | | | | | | |
| Benzo(a)anthracene | ND | 0.40 | mg/kg wet | | | | | | | |
| Benzo(a)pyrene | ND | 0.40 | mg/kg wet | | | | | | | |
| Benzo(b)fluoranthene | ND | 0.40 | mg/kg wet | | | | | | | |
| Benzo(g,h,i)perylene | ND | 0.40 | mg/kg wet | | | | | | | |
| Benzo(k)fluoranthene | ND | 0.40 | mg/kg wet | | | | | | | |
| C11-C22 Unadjusted Aromatics1 | ND | 15.0 | mg/kg wet | | | | | | | |
| Chrysene | ND | 0.40 | mg/kg wet | | | | | | | |
| Dibenzo(a,h)Anthracene | ND | 0.20 | mg/kg wet | | | | | | | |
| Fluoranthene | ND | 0.40 | mg/kg wet | | | | | | | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St

ESS Laboratory Work Order: 21L1079

Quality Control Data

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

MADEP-EPH Extractable Petroleum Hydrocarbons

Batch DA20331 - 3546

| | | | | | | | | | | |
|--------------------------------------|-------------|------|-----------|--------------|--|-----------|---------------|--|--|--|
| Fluorene | ND | 0.40 | mg/kg wet | | | | | | | |
| Indeno(1,2,3-cd)Pyrene | ND | 0.40 | mg/kg wet | | | | | | | |
| Naphthalene | ND | 0.40 | mg/kg wet | | | | | | | |
| Phenanthrene | ND | 0.40 | mg/kg wet | | | | | | | |
| Pyrene | ND | 0.40 | mg/kg wet | | | | | | | |
| <i>Surrogate: 2-Bromonaphthalene</i> | <i>1.54</i> | | mg/kg wet | <i>2.000</i> | | <i>77</i> | <i>40-140</i> | | | |
| <i>Surrogate: 2-Fluorobiphenyl</i> | <i>1.43</i> | | mg/kg wet | <i>2.000</i> | | <i>72</i> | <i>40-140</i> | | | |
| <i>Surrogate: O-Terphenyl</i> | <i>1.57</i> | | mg/kg wet | <i>2.000</i> | | <i>78</i> | <i>40-140</i> | | | |

LCS

| | | | | | | | | | | |
|-----------------------|------|------|-----------|-------|--|----|--------|--|--|--|
| C19-C36 Aliphatics1 | 13.1 | 15.0 | mg/kg wet | 16.00 | | 82 | 40-140 | | | |
| C9-C18 Aliphatics1 | 6.9 | 15.0 | mg/kg wet | 12.00 | | 57 | 40-140 | | | |
| Decane (C10) | 0.9 | 0.5 | mg/kg wet | 2.000 | | 47 | 40-140 | | | |
| Docosane (C22) | 1.4 | 0.5 | mg/kg wet | 2.000 | | 72 | 40-140 | | | |
| Dodecane (C12) | 1.0 | 0.5 | mg/kg wet | 2.000 | | 50 | 40-140 | | | |
| Eicosane (C20) | 1.4 | 0.5 | mg/kg wet | 2.000 | | 70 | 40-140 | | | |
| Hexacosane (C26) | 1.5 | 0.5 | mg/kg wet | 2.000 | | 73 | 40-140 | | | |
| Hexadecane (C16) | 1.3 | 0.5 | mg/kg wet | 2.000 | | 64 | 40-140 | | | |
| Hexatriacontane (C36) | 1.5 | 0.5 | mg/kg wet | 2.000 | | 76 | 40-140 | | | |
| Nonadecane (C19) | 1.4 | 0.5 | mg/kg wet | 2.000 | | 69 | 40-140 | | | |
| Nonane (C9) | 0.8 | 0.5 | mg/kg wet | 2.000 | | 40 | 30-140 | | | |
| Octacosane (C28) | 1.4 | 0.5 | mg/kg wet | 2.000 | | 71 | 40-140 | | | |
| Octadecane (C18) | 1.3 | 0.5 | mg/kg wet | 2.000 | | 66 | 40-140 | | | |
| Tetracosane (C24) | 1.3 | 0.5 | mg/kg wet | 2.000 | | 66 | 40-140 | | | |
| Tetradecane (C14) | 1.1 | 0.5 | mg/kg wet | 2.000 | | 56 | 40-140 | | | |
| Triacontane (C30) | 1.4 | 0.5 | mg/kg wet | 2.000 | | 71 | 40-140 | | | |

| | | | | | | | | | | |
|--------------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|
| <i>Surrogate: 1-Chlorooctadecane</i> | <i>1.74</i> | | mg/kg wet | <i>2.000</i> | | <i>87</i> | <i>40-140</i> | | | |
|--------------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|

LCS

| | | | | | | | | | | |
|-------------------------------|------|------|-----------|-------|--|----|--------|--|--|--|
| 2-Methylnaphthalene | 1.12 | 0.20 | mg/kg wet | 2.000 | | 56 | 40-140 | | | |
| Acenaphthene | 1.34 | 0.40 | mg/kg wet | 2.000 | | 67 | 40-140 | | | |
| Acenaphthylene | 1.24 | 0.20 | mg/kg wet | 2.000 | | 62 | 40-140 | | | |
| Anthracene | 1.53 | 0.40 | mg/kg wet | 2.000 | | 77 | 40-140 | | | |
| Benzo(a)anthracene | 1.37 | 0.40 | mg/kg wet | 2.000 | | 69 | 40-140 | | | |
| Benzo(a)pyrene | 1.36 | 0.40 | mg/kg wet | 2.000 | | 68 | 40-140 | | | |
| Benzo(b)fluoranthene | 1.35 | 0.40 | mg/kg wet | 2.000 | | 68 | 40-140 | | | |
| Benzo(g,h,i)perylene | 1.42 | 0.40 | mg/kg wet | 2.000 | | 71 | 40-140 | | | |
| Benzo(k)fluoranthene | 1.41 | 0.40 | mg/kg wet | 2.000 | | 71 | 40-140 | | | |
| C11-C22 Unadjusted Aromatics1 | 24.1 | 15.0 | mg/kg wet | 34.00 | | 71 | 40-140 | | | |
| Chrysene | 1.45 | 0.40 | mg/kg wet | 2.000 | | 73 | 40-140 | | | |
| Dibenzo(a,h)Anthracene | 1.44 | 0.20 | mg/kg wet | 2.000 | | 72 | 40-140 | | | |
| Fluoranthene | 1.53 | 0.40 | mg/kg wet | 2.000 | | 76 | 40-140 | | | |
| Fluorene | 1.40 | 0.40 | mg/kg wet | 2.000 | | 70 | 40-140 | | | |
| Indeno(1,2,3-cd)Pyrene | 1.40 | 0.40 | mg/kg wet | 2.000 | | 70 | 40-140 | | | |
| Naphthalene | 1.09 | 0.40 | mg/kg wet | 2.000 | | 55 | 40-140 | | | |
| Phenanthrene | 1.49 | 0.40 | mg/kg wet | 2.000 | | 75 | 40-140 | | | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St

ESS Laboratory Work Order: 21L1079

Quality Control Data

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---|--------|------|-----------|-------------|---------------|------|-------------|------|-----------|-----------|
| MADEP-EPH Extractable Petroleum Hydrocarbons | | | | | | | | | | |
| Batch DA20331 - 3546 | | | | | | | | | | |
| Pyrene | 1.53 | 0.40 | mg/kg wet | 2.000 | | 77 | 40-140 | | | |
| <i>Surrogate: 2-Bromonaphthalene</i> | 1.51 | | mg/kg wet | 2.000 | | 75 | 40-140 | | | |
| <i>Surrogate: 2-Fluorobiphenyl</i> | 1.46 | | mg/kg wet | 2.000 | | 73 | 40-140 | | | |
| <i>Surrogate: O-Terphenyl</i> | 1.67 | | mg/kg wet | 2.000 | | 83 | 40-140 | | | |
| LCS | | | | | | | | | | |
| 2-Methylnaphthalene Breakthrough | 0.0 | | % | | | | 0-5 | | | |
| Naphthalene Breakthrough | 0.0 | | % | | | | 0-5 | | | |
| LCS Dup | | | | | | | | | | |
| C19-C36 Aliphatics1 | 12.7 | 15.0 | mg/kg wet | 16.00 | | 79 | 40-140 | 3 | 25 | |
| C9-C18 Aliphatics1 | 6.8 | 15.0 | mg/kg wet | 12.00 | | 57 | 40-140 | 0.9 | 25 | |
| Decane (C10) | 0.9 | 0.5 | mg/kg wet | 2.000 | | 47 | 40-140 | 0.3 | 25 | |
| Docosane (C22) | 1.4 | 0.5 | mg/kg wet | 2.000 | | 71 | 40-140 | 2 | 25 | |
| Dodecane (C12) | 1.0 | 0.5 | mg/kg wet | 2.000 | | 50 | 40-140 | 0.6 | 25 | |
| Eicosane (C20) | 1.4 | 0.5 | mg/kg wet | 2.000 | | 68 | 40-140 | 2 | 25 | |
| Hexacosane (C26) | 1.4 | 0.5 | mg/kg wet | 2.000 | | 71 | 40-140 | 2 | 25 | |
| Hexadecane (C16) | 1.3 | 0.5 | mg/kg wet | 2.000 | | 64 | 40-140 | 0.1 | 25 | |
| Hexatriacontane (C36) | 1.5 | 0.5 | mg/kg wet | 2.000 | | 75 | 40-140 | 2 | 25 | |
| Nonadecane (C19) | 1.4 | 0.5 | mg/kg wet | 2.000 | | 68 | 40-140 | 2 | 25 | |
| Nonane (C9) | 0.8 | 0.5 | mg/kg wet | 2.000 | | 40 | 30-140 | 0.3 | 25 | |
| Octacosane (C28) | 1.4 | 0.5 | mg/kg wet | 2.000 | | 69 | 40-140 | 2 | 25 | |
| Octadecane (C18) | 1.3 | 0.5 | mg/kg wet | 2.000 | | 65 | 40-140 | 2 | 25 | |
| Tetracosane (C24) | 1.3 | 0.5 | mg/kg wet | 2.000 | | 64 | 40-140 | 2 | 25 | |
| Tetradecane (C14) | 1.1 | 0.5 | mg/kg wet | 2.000 | | 57 | 40-140 | 0.08 | 25 | |
| Triacontane (C30) | 1.4 | 0.5 | mg/kg wet | 2.000 | | 70 | 40-140 | 2 | 25 | |
| <i>Surrogate: 1-Chlorooctadecane</i> | 1.70 | | mg/kg wet | 2.000 | | 85 | 40-140 | | | |
| LCS Dup | | | | | | | | | | |
| 2-Methylnaphthalene | 1.12 | 0.20 | mg/kg wet | 2.000 | | 56 | 40-140 | 0.6 | 30 | |
| Acenaphthene | 1.30 | 0.40 | mg/kg wet | 2.000 | | 65 | 40-140 | 3 | 30 | |
| Acenaphthylene | 1.17 | 0.20 | mg/kg wet | 2.000 | | 58 | 40-140 | 6 | 30 | |
| Anthracene | 1.51 | 0.40 | mg/kg wet | 2.000 | | 76 | 40-140 | 1 | 30 | |
| Benzo(a)anthracene | 1.35 | 0.40 | mg/kg wet | 2.000 | | 68 | 40-140 | 1 | 30 | |
| Benzo(a)pyrene | 1.39 | 0.40 | mg/kg wet | 2.000 | | 69 | 40-140 | 2 | 30 | |
| Benzo(b)fluoranthene | 1.36 | 0.40 | mg/kg wet | 2.000 | | 68 | 40-140 | 0.8 | 30 | |
| Benzo(g,h,i)perylene | 1.40 | 0.40 | mg/kg wet | 2.000 | | 70 | 40-140 | 2 | 30 | |
| Benzo(k)fluoranthene | 1.43 | 0.40 | mg/kg wet | 2.000 | | 71 | 40-140 | 1 | 30 | |
| C11-C22 Unadjusted Aromatics1 | 25.7 | 15.0 | mg/kg wet | 34.00 | | 76 | 40-140 | 6 | 25 | |
| Chrysene | 1.49 | 0.40 | mg/kg wet | 2.000 | | 74 | 40-140 | 2 | 30 | |
| Dibenzo(a,h)Anthracene | 1.46 | 0.20 | mg/kg wet | 2.000 | | 73 | 40-140 | 1 | 30 | |
| Fluoranthene | 1.50 | 0.40 | mg/kg wet | 2.000 | | 75 | 40-140 | 2 | 30 | |
| Fluorene | 1.37 | 0.40 | mg/kg wet | 2.000 | | 68 | 40-140 | 2 | 30 | |
| Indeno(1,2,3-cd)Pyrene | 1.41 | 0.40 | mg/kg wet | 2.000 | | 70 | 40-140 | 0.6 | 30 | |
| Naphthalene | 1.09 | 0.40 | mg/kg wet | 2.000 | | 54 | 40-140 | 0.4 | 30 | |
| Phenanthrene | 1.49 | 0.40 | mg/kg wet | 2.000 | | 74 | 40-140 | 0.4 | 30 | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
 Client Project ID: NGrid - 131 Morse St

ESS Laboratory Work Order: 21L1079

Quality Control Data

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---|--------|------|-----------|-------------|---------------|------|-------------|-----|-----------|-----------|
| MADEP-EPH Extractable Petroleum Hydrocarbons | | | | | | | | | | |
| Batch DA20331 - 3546 | | | | | | | | | | |
| Pyrene | 1.53 | 0.40 | mg/kg wet | 2.000 | | 77 | 40-140 | 0.3 | 30 | |
| Surrogate: 2-Bromonaphthalene | 1.54 | | mg/kg wet | 2.000 | | 77 | 40-140 | | | |
| Surrogate: 2-Fluorobiphenyl | 1.47 | | mg/kg wet | 2.000 | | 74 | 40-140 | | | |
| Surrogate: O-Terphenyl | 1.67 | | mg/kg wet | 2.000 | | 83 | 40-140 | | | |
| LCS Dup | | | | | | | | | | |
| 2-Methylnaphthalene Breakthrough | 0.0 | | % | | | | 0-5 | | 200 | |
| Naphthalene Breakthrough | 0.0 | | % | | | | 0-5 | | 200 | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St

ESS Laboratory Work Order: 21L1079

Notes and Definitions

- Z15 See Project Narrative
- Z-08 See Attached
- U Analyte included in the analysis, but not detected
- D Diluted.
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit
- MF Membrane Filtration
- MPN Most Probable Number
- TNTC Too numerous to Count
- CFU Colony Forming Units



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St

ESS Laboratory Work Order: 21L1079

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>



195 Frances Avenue
 Cranston RI, 02910
 Phone: (401)-467-6454
 Fax: (401)-467-2398
thielsch.com
Let's Build a Solid Foundation

Client Information:
 Tighe & Bond
 Providence, RI
 PM: Matthew Abraham
 Assigned By: ESS
 Collected By: Client

Project Information:
National Grid - 131 Morse Street
Foxborough, MA
 ESS Project Number: 21L01079
 Summary Page: 1 of 1
 Report Date: 01.12.22

LABORATORY TESTING DATA SHEET, Report No.: 7422-A-105

| Source | Sample No. | Depth (Ft) | Laboratory No. | Identification Tests | | | | | | | | Proctor / CBR / Permeability Tests | | | | | | | Laboratory Log and Soil Description | |
|----------------|------------|------------|----------------|--------------------------------|-------|-------|----------|--------|---------|--------|----------------|------------------------------------|-------------------------|---|---|-----------------------------------|------------|------------|-------------------------------------|---|
| | | | | As Received Moisture Content % | LL % | PL % | Gravel % | Sand % | Fines % | Org. % | G _s | Dry unit wt. pcf | Test Moisture Content % | γ _d MAX (pcf) W _{opt} (%) | γ _d MAX (pcf) W _{opt} (%) (Corr.) | Target Test Setup as % of Proctor | CBR @ 0.1" | CBR @ 0.2" | | Permeability cm/sec |
| | | | | D2216 | D4318 | D6913 | | | D2974 | D854 | | | D1557 | | | | | | | |
| Soil Composite | B-3 | 2-5 | 21L01079-01 | | | | 65.4 | 26.2 | 8.4 | | | | | | | | | | | Brown well-graded gravel with silt and sand |
| | | | | | | | | | | | | | | | | | | | | |
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Date Received: 1.04.22

Reviewed By: 

Date Reviewed: 1.12.22

This report only relates to items inspect and/or tested. No warranty, expressed or implied, is made.
 This report shall not be reproduced, except in full, without prior written approval from the Agency, as defined in ASTM E329.

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tighe & Bond - KP/B/TB
 Shipped/Delivered Via: Client

ESS Project ID: 21L1079
 Date Received: 12/30/2021
 Project Due Date: 1/7/2022
 Days for Project: 5 Day

1. Air bill manifest present? No
 Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
 Temp: -1 Iced with: Ice
5. Was COC signed and dated by client? Yes

6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. Were labs informed about **short holds & rushes**? Yes / No NA
10. Were any analyses received outside of hold time? Yes No

11. Any Subcontracting needed? Yes No
 ESS Sample IDs: _____
 Analysis: _____
 TAT: _____

12. Were VOAs received? Yes No
 a. Air bubbles in aqueous VOAs? Yes / No
 b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved? Yes / No
 a. If metals preserved upon receipt: Date: _____ Time: _____ By: _____
 b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes No
 a. Was there a need to contact the client? Yes No
 Who was contacted? _____ Date: _____ Time: _____ By: _____

| Sample Number | Container ID | Proper Container | Air Bubbles Present | Sufficient Volume | Container Type | Preservative | Record pH (Cyanide and 608 Pesticides) |
|---------------|--------------|------------------|---------------------|-------------------|----------------|--------------|--|
| 1 | 246888 | Yes | N/A | Yes | 4 oz. Jar | NP | |
| 2 | 246889 | Yes | N/A | Yes | 4 oz. Jar | NP | |
| 3 | 246890 | Yes | N/A | Yes | 4 oz. Jar | NP | |
| 4 | 246891 | Yes | N/A | Yes | 4 oz. Jar | NP | |
| 5 | 246892 | Yes | N/A | Yes | 4 oz. Jar | NP | |

2nd Review
 Were all containers scanned into storage/lab? Initials TD
 Are barcode labels on correct containers? Yes / No
 Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
 Are all Hex Chrome stickers attached? Yes / No / NA
 Are all QC stickers attached? Yes / No / NA
 Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: [Signature] Date & Time: 12/30/21 1558
 Reviewed

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tighe & Bond - KPB/TB

ESS Project ID: 21L1079

By: *Clayton Dawes*

Date Received: 12/30/2021

Date & Time: 12/30/21 1600

CERTIFICATE OF ANALYSIS

Matt Abraham
Tighe & Bond
120 Front Street, Suite 7
Worcester, MA 01608

RE: NGrid - 131 Morse St (N-5067-084)
ESS Laboratory Work Order Number: 22A0128

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard
Laboratory Director

REVIEWED*By ESS Laboratory at 5:29 pm, Jan 13, 2022***Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St

ESS Laboratory Work Order: 22A0128

SAMPLE RECEIPT

The following samples were received on January 06, 2022 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Question I: All samples for EPH were analyzed for a subset of the required MCP list per the client's request.

| Lab Number | Sample Name | Matrix | Analysis |
|-------------------|--------------------|---------------|--------------------|
| 22A0128-01 | BW-1 | Ground Water | EPH8270, MADEP-EPH |
| 22A0128-02 | BW-2 | Ground Water | EPH8270, MADEP-EPH |
| 22A0128-03 | BW-3 | Ground Water | EPH8270, MADEP-EPH |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St

ESS Laboratory Work Order: 22A0128

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St

ESS Laboratory Work Order: 22A0128

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015C - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH
- MADEP 18-2.1 - VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St

ESS Laboratory Work Order: 22A0128

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **22A0128-01 through 22A0128-03**

Matrices: Ground Water/Surface Water () Soil/Sediment () Drinking Water () Air () Other: _____

CAM Protocol (check all that apply below):

- | | | | | | |
|---|--|--|---|--|---|
| <input type="checkbox"/> 8260 VOC CAM II A | <input type="checkbox"/> 7470/7471 Hg CAM III B | <input type="checkbox"/> MassDEP VPH (GC/PID/FID) CAM IV A | <input type="checkbox"/> 8082 PCB CAM V A | <input type="checkbox"/> 9014 Total Cyanide/PAC CAM VI A | <input type="checkbox"/> 6860 Perchlorate CAM VIII B |
| <input type="checkbox"/> 8270 SVOC CAM II B | <input type="checkbox"/> 7010 Metals CAM III C | <input type="checkbox"/> MassDEP VPH (GC/MS) CAM IV C | <input type="checkbox"/> 8081 Pesticides CAM V B | <input type="checkbox"/> 7196 Hex Cr CAM VI B | <input type="checkbox"/> MassDEP APH CAM IX A |
| <input type="checkbox"/> 6010 Metals CAM III A | <input type="checkbox"/> 6020 Metals CAM III D | <input checked="" type="checkbox"/> MassDEP EPH CAM IV B | <input type="checkbox"/> 8151 Herbicides CAM V C | <input type="checkbox"/> Explosives CAM VIII A | <input type="checkbox"/> TO-15 VOC CAM IX B |

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

- | | | |
|---|--|--|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | Yes <input checked="" type="checkbox"/> No () |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | Yes <input checked="" type="checkbox"/> No () |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | Yes <input checked="" type="checkbox"/> No () |
| D | Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? | Yes <input checked="" type="checkbox"/> No () |
| E | VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method? | Yes <input checked="" type="checkbox"/> No () Yes () No () |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | Yes <input checked="" type="checkbox"/> No () |

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

- | | | |
|---|--|--|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350. | Yes <input checked="" type="checkbox"/> No ()* |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | Yes <input checked="" type="checkbox"/> No ()* |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | Yes () No <input checked="" type="checkbox"/> * |

**All negative responses must be addressed in an attached laboratory narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard
Printed Name: Laurel Stoddard

Date: January 13, 2022
Position: Laboratory Director



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
 Client Project ID: NGrid - 131 Morse St
 Client Sample ID: BW-1
 Date Sampled: 01/06/22 10:50
 Percent Solids: N/A
 Initial Volume: 1010
 Final Volume: 1
 Extraction Method: 3510C

ESS Laboratory Work Order: 22A0128
 ESS Laboratory Sample ID: 22A0128-01
 Sample Matrix: Ground Water
 Units: ug/L

Prepared: 1/10/22 16:20

MADEP-EPH Extractable Petroleum Hydrocarbons

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|-----------------|--------------|
| C9-C18 Aliphatics1 | ND (99) | | MADEP-EPH | | 1 | MJV | 01/11/22 19:58 | D2A0140 | DA21001 |
| C19-C36 Aliphatics1 | ND (99) | | MADEP-EPH | | 1 | MJV | 01/11/22 19:58 | D2A0140 | DA21001 |
| C11-C22 Unadjusted Aromatics1 | ND (99.0) | | EPH8270 | | 1 | MJV | 01/11/22 23:37 | D2A0142 | DA21001 |
| C11-C22 Aromatics1,2 | ND (99.0) | | EPH8270 | | | MJV | 01/11/22 23:37 | | [CALC] |
| Preservative: | pH <= 2 | | MADEP-EPH | | | MJV | | | DA21001 |

| | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|--------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1-Chlorooctadecane</i> | 54 % | | 40-140 |
| <i>Surrogate: 2-Bromonaphthalene</i> | 90 % | | 40-140 |
| <i>Surrogate: 2-Fluorobiphenyl</i> | 92 % | | 40-140 |
| <i>Surrogate: O-Terphenyl</i> | 99 % | | 40-140 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St
Client Sample ID: BW-2
Date Sampled: 01/06/22 11:45
Percent Solids: N/A
Initial Volume: 1020
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 22A0128
ESS Laboratory Sample ID: 22A0128-02
Sample Matrix: Ground Water
Units: ug/L

Prepared: 1/10/22 16:20

MADEP-EPH Extractable Petroleum Hydrocarbons

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|-----------------|--------------|
| C9-C18 Aliphatics1 | ND (98) | | MADEP-EPH | | 1 | MJV | 01/11/22 20:33 | D2A0140 | DA21001 |
| C19-C36 Aliphatics1 | ND (98) | | MADEP-EPH | | 1 | MJV | 01/11/22 20:33 | D2A0140 | DA21001 |
| C11-C22 Unadjusted Aromatics1 | ND (98.0) | | EPH8270 | | 1 | MJV | 01/12/22 0:15 | D2A0142 | DA21001 |
| C11-C22 Aromatics1,2 | ND (98.0) | | EPH8270 | | | MJV | 01/12/22 0:15 | | [CALC] |
| Preservative: | pH <= 2 | | MADEP-EPH | | | MJV | | | DA21001 |

| | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|--------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1-Chlorooctadecane</i> | 77 % | | 40-140 |
| <i>Surrogate: 2-Bromonaphthalene</i> | 94 % | | 40-140 |
| <i>Surrogate: 2-Fluorobiphenyl</i> | 93 % | | 40-140 |
| <i>Surrogate: O-Terphenyl</i> | 101 % | | 40-140 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
 Client Project ID: NGrid - 131 Morse St
 Client Sample ID: BW-3
 Date Sampled: 01/06/22 13:10
 Percent Solids: N/A
 Initial Volume: 1020
 Final Volume: 1
 Extraction Method: 3510C

ESS Laboratory Work Order: 22A0128
 ESS Laboratory Sample ID: 22A0128-03
 Sample Matrix: Ground Water
 Units: ug/L

Prepared: 1/10/22 16:20

MADEP-EPH Extractable Petroleum Hydrocarbons

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|-----------------|--------------|
| C9-C18 Aliphatics1 | ND (98) | | MADEP-EPH | | 1 | MJV | 01/11/22 21:08 | D2A0140 | DA21001 |
| C19-C36 Aliphatics1 | ND (98) | | MADEP-EPH | | 1 | MJV | 01/11/22 21:08 | D2A0140 | DA21001 |
| C11-C22 Unadjusted Aromatics1 | ND (98.0) | | EPH8270 | | 1 | MJV | 01/12/22 0:52 | D2A0142 | DA21001 |
| C11-C22 Aromatics1,2 | ND (98.0) | | EPH8270 | | | MJV | 01/12/22 0:52 | | [CALC] |
| Preservative: | pH <= 2 | | MADEP-EPH | | | MJV | | | DA21001 |

| | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|--------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1-Chlorooctadecane</i> | 73 % | | 40-140 |
| <i>Surrogate: 2-Bromonaphthalene</i> | 92 % | | 40-140 |
| <i>Surrogate: 2-Fluorobiphenyl</i> | 97 % | | 40-140 |
| <i>Surrogate: O-Terphenyl</i> | 101 % | | 40-140 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St

ESS Laboratory Work Order: 22A0128

Quality Control Data

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

MADEP-EPH Extractable Petroleum Hydrocarbons

Batch DA21001 - 3510C

Blank

| | | | | | | | | | | |
|---------------------|----|-----|------|--|--|--|--|--|--|--|
| C19-C36 Aliphatics1 | ND | 100 | ug/L | | | | | | | |
| C9-C18 Aliphatics1 | ND | 100 | ug/L | | | | | | | |

| | | | | | | | | | | |
|-------------------------------|------|--|------|-------|--|----|--------|--|--|--|
| Surrogate: 1-Chlorooctadecane | 43.6 | | ug/L | 50.00 | | 87 | 40-140 | | | |
|-------------------------------|------|--|------|-------|--|----|--------|--|--|--|

Blank

| | | | | | | | | | | |
|-------------------------------|----|------|------|--|--|--|--|--|--|--|
| 2-Methylnaphthalene | ND | 5.0 | ug/L | | | | | | | |
| Acenaphthene | ND | 5.0 | ug/L | | | | | | | |
| Acenaphthylene | ND | 5.0 | ug/L | | | | | | | |
| Anthracene | ND | 5.0 | ug/L | | | | | | | |
| Benzo(a)anthracene | ND | 5.0 | ug/L | | | | | | | |
| Benzo(a)pyrene | ND | 10.0 | ug/L | | | | | | | |
| Benzo(b)fluoranthene | ND | 5.0 | ug/L | | | | | | | |
| Benzo(g,h,i)perylene | ND | 10.0 | ug/L | | | | | | | |
| Benzo(k)fluoranthene | ND | 10.0 | ug/L | | | | | | | |
| C11-C22 Unadjusted Aromatics1 | ND | 100 | ug/L | | | | | | | |
| Chrysene | ND | 10.0 | ug/L | | | | | | | |
| Dibenzo(a,h)Anthracene | ND | 5.0 | ug/L | | | | | | | |
| Fluoranthene | ND | 10.0 | ug/L | | | | | | | |
| Fluorene | ND | 5.0 | ug/L | | | | | | | |
| Indeno(1,2,3-cd)Pyrene | ND | 5.0 | ug/L | | | | | | | |
| Naphthalene | ND | 10.0 | ug/L | | | | | | | |
| Phenanthrene | ND | 5.0 | ug/L | | | | | | | |
| Pyrene | ND | 5.0 | ug/L | | | | | | | |

| | | | | | | | | | | |
|-------------------------------|------|--|------|-------|--|----|--------|--|--|--|
| Surrogate: 2-Bromonaphthalene | 42.2 | | ug/L | 50.00 | | 84 | 40-140 | | | |
|-------------------------------|------|--|------|-------|--|----|--------|--|--|--|

| | | | | | | | | | | |
|-----------------------------|------|--|------|-------|--|----|--------|--|--|--|
| Surrogate: 2-Fluorobiphenyl | 43.3 | | ug/L | 50.00 | | 87 | 40-140 | | | |
|-----------------------------|------|--|------|-------|--|----|--------|--|--|--|

| | | | | | | | | | | |
|------------------------|------|--|------|-------|--|----|--------|--|--|--|
| Surrogate: O-Terphenyl | 46.1 | | ug/L | 50.00 | | 92 | 40-140 | | | |
|------------------------|------|--|------|-------|--|----|--------|--|--|--|

LCS

| | | | | | | | | | | |
|---------------------|-----|-----|------|-------|--|----|--------|--|--|--|
| C19-C36 Aliphatics1 | 360 | 100 | ug/L | 400.0 | | 90 | 40-140 | | | |
| C9-C18 Aliphatics1 | 212 | 100 | ug/L | 300.0 | | 71 | 40-140 | | | |

| | | | | | | | | | | |
|-------------------------------|------|--|------|-------|--|----|--------|--|--|--|
| Surrogate: 1-Chlorooctadecane | 47.9 | | ug/L | 50.00 | | 96 | 40-140 | | | |
|-------------------------------|------|--|------|-------|--|----|--------|--|--|--|

LCS

| | | | | | | | | | | |
|-------------------------------|------|------|------|-------|--|----|--------|--|--|--|
| 2-Methylnaphthalene | 36.6 | 5.0 | ug/L | 50.00 | | 73 | 40-140 | | | |
| Acenaphthene | 42.3 | 5.0 | ug/L | 50.00 | | 85 | 40-140 | | | |
| Acenaphthylene | 39.5 | 5.0 | ug/L | 50.00 | | 79 | 40-140 | | | |
| Anthracene | 47.5 | 5.0 | ug/L | 50.00 | | 95 | 40-140 | | | |
| Benzo(a)anthracene | 41.6 | 5.0 | ug/L | 50.00 | | 83 | 40-140 | | | |
| Benzo(a)pyrene | 41.3 | 10.0 | ug/L | 50.00 | | 83 | 40-140 | | | |
| Benzo(b)fluoranthene | 39.3 | 5.0 | ug/L | 50.00 | | 79 | 40-140 | | | |
| Benzo(g,h,i)perylene | 43.8 | 10.0 | ug/L | 50.00 | | 88 | 40-140 | | | |
| Benzo(k)fluoranthene | 40.6 | 10.0 | ug/L | 50.00 | | 81 | 40-140 | | | |
| C11-C22 Unadjusted Aromatics1 | 815 | 100 | ug/L | 850.0 | | 96 | 40-140 | | | |
| Chrysene | 43.7 | 10.0 | ug/L | 50.00 | | 87 | 40-140 | | | |
| Dibenzo(a,h)Anthracene | 43.1 | 5.0 | ug/L | 50.00 | | 86 | 40-140 | | | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St

ESS Laboratory Work Order: 22A0128

Quality Control Data

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---|--------|------|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
| MADEP-EPH Extractable Petroleum Hydrocarbons | | | | | | | | | | |
| Batch DA21001 - 3510C | | | | | | | | | | |
| Fluoranthene | 45.3 | 10.0 | ug/L | 50.00 | | 91 | 40-140 | | | |
| Fluorene | 41.7 | 5.0 | ug/L | 50.00 | | 83 | 40-140 | | | |
| Indeno(1,2,3-cd)Pyrene | 42.6 | 5.0 | ug/L | 50.00 | | 85 | 40-140 | | | |
| Naphthalene | 34.5 | 10.0 | ug/L | 50.00 | | 69 | 40-140 | | | |
| Phenanthrene | 44.6 | 5.0 | ug/L | 50.00 | | 89 | 40-140 | | | |
| Pyrene | 44.8 | 5.0 | ug/L | 50.00 | | 90 | 40-140 | | | |
| Surrogate: 2-Bromonaphthalene | 46.4 | | ug/L | 50.00 | | 93 | 40-140 | | | |
| Surrogate: 2-Fluorobiphenyl | 48.2 | | ug/L | 50.00 | | 96 | 40-140 | | | |
| Surrogate: O-Terphenyl | 51.1 | | ug/L | 50.00 | | 102 | 40-140 | | | |
| LCS | | | | | | | | | | |
| 2-Methylnaphthalene Breakthrough | 0.0 | | % | | | | 0-5 | | | |
| Naphthalene Breakthrough | 0.0 | | % | | | | 0-5 | | | |
| LCS Dup | | | | | | | | | | |
| C19-C36 Aliphatics1 | 358 | 100 | ug/L | 400.0 | | 90 | 40-140 | 0.5 | 25 | |
| C9-C18 Aliphatics1 | 215 | 100 | ug/L | 300.0 | | 72 | 40-140 | 2 | 25 | |
| Surrogate: 1-Chlorooctadecane | 48.3 | | ug/L | 50.00 | | 97 | 40-140 | | | |
| LCS Dup | | | | | | | | | | |
| 2-Methylnaphthalene | 34.4 | 5.0 | ug/L | 50.00 | | 69 | 40-140 | 6 | 20 | |
| Acenaphthene | 42.7 | 5.0 | ug/L | 50.00 | | 85 | 40-140 | 0.9 | 20 | |
| Acenaphthylene | 40.6 | 5.0 | ug/L | 50.00 | | 81 | 40-140 | 3 | 20 | |
| Anthracene | 46.0 | 5.0 | ug/L | 50.00 | | 92 | 40-140 | 3 | 20 | |
| Benzo(a)anthracene | 40.1 | 5.0 | ug/L | 50.00 | | 80 | 40-140 | 4 | 20 | |
| Benzo(a)pyrene | 39.8 | 10.0 | ug/L | 50.00 | | 80 | 40-140 | 3 | 20 | |
| Benzo(b)fluoranthene | 39.2 | 5.0 | ug/L | 50.00 | | 78 | 40-140 | 0.3 | 20 | |
| Benzo(g,h,i)perylene | 42.1 | 10.0 | ug/L | 50.00 | | 84 | 40-140 | 4 | 20 | |
| Benzo(k)fluoranthene | 41.5 | 10.0 | ug/L | 50.00 | | 83 | 40-140 | 2 | 20 | |
| C11-C22 Unadjusted Aromatics1 | 788 | 100 | ug/L | 850.0 | | 93 | 40-140 | 3 | 25 | |
| Chrysene | 42.7 | 10.0 | ug/L | 50.00 | | 85 | 40-140 | 2 | 20 | |
| Dibenzo(a,h)Anthracene | 43.0 | 5.0 | ug/L | 50.00 | | 86 | 40-140 | 0.3 | 20 | |
| Fluoranthene | 43.0 | 10.0 | ug/L | 50.00 | | 86 | 40-140 | 5 | 20 | |
| Fluorene | 41.4 | 5.0 | ug/L | 50.00 | | 83 | 40-140 | 0.9 | 20 | |
| Indeno(1,2,3-cd)Pyrene | 41.4 | 5.0 | ug/L | 50.00 | | 83 | 40-140 | 3 | 20 | |
| Naphthalene | 35.7 | 10.0 | ug/L | 50.00 | | 71 | 40-140 | 3 | 20 | |
| Phenanthrene | 43.4 | 5.0 | ug/L | 50.00 | | 87 | 40-140 | 3 | 20 | |
| Pyrene | 45.4 | 5.0 | ug/L | 50.00 | | 91 | 40-140 | 1 | 20 | |
| Surrogate: 2-Bromonaphthalene | 46.3 | | ug/L | 50.00 | | 93 | 40-140 | | | |
| Surrogate: 2-Fluorobiphenyl | 48.5 | | ug/L | 50.00 | | 97 | 40-140 | | | |
| Surrogate: O-Terphenyl | 50.8 | | ug/L | 50.00 | | 102 | 40-140 | | | |
| LCS Dup | | | | | | | | | | |
| 2-Methylnaphthalene Breakthrough | 0.0 | | % | | | | 0-5 | | 200 | |
| Naphthalene Breakthrough | 0.0 | | % | | | | 0-5 | | 200 | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St

ESS Laboratory Work Order: 22A0128

Notes and Definitions

- Z-06 pH <= 2
- U Analyte included in the analysis, but not detected
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit
- MF Membrane Filtration
- MPN Most Probable Number
- TNTC Too numerous to Count
- CFU Colony Forming Units



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: NGrid - 131 Morse St

ESS Laboratory Work Order: 22A0128

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tighe & Bond - KPB/TB
 Shipped/Delivered Via: ESS Courier

ESS Project ID: 22A0128
 Date Received: 1/6/2022
 Project Due Date: 1/13/2022
 Days for Project: 5 Day

1. Air bill manifest present? No
 Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
 Temp: 3.5 Iced with: Ice
5. Was COC signed and dated by client? Yes

6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. Were labs informed about short holds & rushes? Yes / No / NA
10. Were any analyses received outside of hold time? Yes / No

11. Any Subcontracting needed? Yes No
 ESS Sample IDs: _____
 Analysis: _____
 TAT: _____

12. Were VOAs received? Yes No
 a. Air bubbles in aqueous VOAs? Yes / No
 b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved? Yes / No
 a. If metals preserved upon receipt: Date: _____ Time: _____ By: _____
 b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes No
 a. Was there a need to contact the client? Yes / No
 Who was contacted? _____ Date: _____ Time: _____ By: _____

| Sample Number | Container ID | Proper Container | Air Bubbles Present | Sufficient Volume | Container Type | Preservative | Record pH (Cyanide and 608 Pesticides) |
|---------------|--------------|------------------|---------------------|-------------------|----------------|--------------|--|
| 1 | 247894 | Yes | N/A | Yes | 1L Amber | HCl | |
| 1 | 247895 | Yes | N/A | Yes | 1L Amber | HCl | |
| 2 | 247896 | Yes | N/A | Yes | 1L Amber | HCl | |
| 2 | 247897 | Yes | N/A | Yes | 1L Amber | HCl | |
| 3 | 247898 | Yes | N/A | Yes | 1L Amber | HCl | |
| 3 | 247899 | Yes | N/A | Yes | 1L Amber | HCl | |

2nd Review

- Were all containers scanned into storage/lab? Initials KL
 Are barcode labels on correct containers? Yes / No
 Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
 Are all Hex Chrome stickers attached? Yes / No / NA
 Are all QC stickers attached? Yes / No / NA
 Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: KL Date & Time: 1-6-22 1533

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tighe & Bond - KPB/TB

ESS Project ID: 22A0128

Date Received: 1/6/2022

Reviewed
By:

Yaylor Douza

Date & Time:

1530

1/6/22

CERTIFICATE OF ANALYSIS

Matt Abraham
Tighe & Bond
120 Front Street, Suite 7
Worcester, MA 01608

RE: MEC - 131 Morse St Foxborough MA (N-5067-084)
ESS Laboratory Work Order Number: 20L0353

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard
Laboratory Director

REVIEWED

By ESS Laboratory at 12:51 pm, Dec 24, 2020

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 20L0353

SAMPLE RECEIPT

The following samples were received on December 10, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Question I: All samples for EPH were analyzed for a subset of the required MCP list per the client's request.

Revision 1 December 24, 2020: This report has been revised to exclude quantitative TPH result for 20L0353-02.

| Lab Number | Sample Name | Matrix | Analysis |
|------------|-------------|---------------|--------------------|
| 20L0353-01 | SW-1 | Surface Water | EPH8270, MADEP-EPH |
| 20L0353-02 | SW-2 | Surface Water | 8100M |
| 20L0353-03 | SW-3 | Surface Water | EPH8270, MADEP-EPH |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 20L0353

PROJECT NARRATIVE

MADEP-EPH Extractable Petroleum Hydrocarbons

D0L0303-CCV2 Continuing Calibration %Diff/Drift is below control limit (CD-).
Hexatriacontane (C36) (33% @ 25%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 20L0353

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015C - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH
- MADEP 18-2.1 - VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 20L0353

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20L0353-01 through 20L0353-03**

Matrices: Ground Water/Surface Water Soil/Sediment Drinking Water Air Other: _____

CAM Protocol (check all that apply below):

- | | | | | | |
|---|--|--|---|--|---|
| <input type="checkbox"/> 8260 VOC CAM II A | <input type="checkbox"/> 7470/7471 Hg CAM III B | <input type="checkbox"/> MassDEP VPH (GC/PID/FID) CAM IV A | <input type="checkbox"/> 8082 PCB CAM V A | <input type="checkbox"/> 9014 Total Cyanide/PAC CAM VI A | <input type="checkbox"/> 6860 Perchlorate CAM VIII B |
| <input type="checkbox"/> 8270 SVOC CAM II B | <input type="checkbox"/> 7010 Metals CAM III C | <input type="checkbox"/> MassDEP VPH (GC/MS) CAM IV C | <input type="checkbox"/> 8081 Pesticides CAM V B | <input type="checkbox"/> 7196 Hex Cr CAM VI B | <input type="checkbox"/> MassDEP APH CAM IX A |
| <input type="checkbox"/> 6010 Metals CAM III A | <input type="checkbox"/> 6020 Metals CAM III D | <input checked="" type="checkbox"/> MassDEP EPH CAM IV B | <input type="checkbox"/> 8151 Herbicides CAM V C | <input type="checkbox"/> Explosives CAM VIII A | <input type="checkbox"/> TO-15 VOC CAM IX B |

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

- | | | |
|---|--|---|
| A | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| B | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| C | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| D | Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| E | VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> |
| F | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

- | | | |
|---|---|---|
| G | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350. | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> * |
| H | Were all QC performance standards specified in the CAM protocol(s) achieved? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> * |
| I | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> * |

*All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Printed Name: Laurel Stoddard

Date: December 21, 2020

Position: Laboratory Director



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
 Client Project ID: MEC - 131 Morse St Foxborough MA
 Client Sample ID: SW-1
 Date Sampled: 12/09/20 09:50
 Percent Solids: N/A
 Initial Volume: 1000
 Final Volume: 1
 Extraction Method: 3510C

ESS Laboratory Work Order: 20L0353
 ESS Laboratory Sample ID: 20L0353-01
 Sample Matrix: Surface Water
 Units: ug/L

Prepared: 12/14/20 13:48

MADEP-EPH Extractable Petroleum Hydrocarbons

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|-----------------|--------------|
| C9-C18 Aliphatics1 | ND (100) | | MADEP-EPH | | 1 | AMF | 12/16/20 0:27 | D0L0303 | DL01408 |
| C19-C36 Aliphatics1 | ND (100) | | MADEP-EPH | | 1 | AMF | 12/16/20 0:27 | D0L0303 | DL01408 |
| C11-C22 Unadjusted Aromatics1 | ND (100) | | EPH8270 | | 1 | AMF | 12/19/20 3:28 | D0L0364 | DL01408 |
| C11-C22 Aromatics1,2 | ND (100) | | EPH8270 | | | AMF | 12/19/20 3:28 | | [CALC] |
| Preservative: | pH <= 2 | | MADEP-EPH | | | AMF | | | DL01408 |

| | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|--------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1-Chlorooctadecane</i> | 49 % | | 40-140 |
| <i>Surrogate: 2-Bromonaphthalene</i> | 79 % | | 40-140 |
| <i>Surrogate: 2-Fluorobiphenyl</i> | 91 % | | 40-140 |
| <i>Surrogate: O-Terphenyl</i> | 73 % | | 40-140 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: MEC - 131 Morse St Foxborough MA
Client Sample ID: SW-2
Date Sampled: 12/09/20 09:20
Percent Solids: N/A
Initial Volume: 1050
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 20L0353
ESS Laboratory Sample ID: 20L0353-02
Sample Matrix: Surface Water
Units: ug/L
Analyst: AMF
Prepared: 12/16/20 16:10

8100M Total Petroleum Hydrocarbons

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|-----------------------------------|------------------|------------------|---------------|-----------|-----------------|-----------------|--------------|
| Fingerprint | Resembles: Transformer Oil Range. | | | | | | | |
| | | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> | | | | |
| <i>Surrogate: O-Terphenyl</i> | | 100 % | | 40-140 | | | | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: MEC - 131 Morse St Foxborough MA
Client Sample ID: SW-3
Date Sampled: 12/09/20 09:15
Percent Solids: N/A
Initial Volume: 1050
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 20L0353
ESS Laboratory Sample ID: 20L0353-03
Sample Matrix: Surface Water
Units: ug/L

Prepared: 12/14/20 13:48

MADEP-EPH Extractable Petroleum Hydrocarbons

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|-----------------|--------------|
| C9-C18 Aliphatics1 | ND (95) | | MADEP-EPH | | 1 | AMF | 12/16/20 1:16 | D0L0303 | DL01408 |
| C19-C36 Aliphatics1 | ND (95) | | MADEP-EPH | | 1 | AMF | 12/16/20 1:16 | D0L0303 | DL01408 |
| C11-C22 Unadjusted Aromatics1 | ND (95.2) | | EPH8270 | | 1 | AMF | 12/19/20 5:55 | D0L0364 | DL01408 |
| C11-C22 Aromatics1,2 | ND (95.2) | | EPH8270 | | | AMF | 12/19/20 5:55 | | [CALC] |
| Preservative: | pH <= 2 | | MADEP-EPH | | | AMF | | | DL01408 |

| | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|--------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1-Chlorooctadecane</i> | 49 % | | 40-140 |
| <i>Surrogate: 2-Bromonaphthalene</i> | 74 % | | 40-140 |
| <i>Surrogate: 2-Fluorobiphenyl</i> | 84 % | | 40-140 |
| <i>Surrogate: O-Terphenyl</i> | 70 % | | 40-140 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 20L0353

Quality Control Data

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

8100M Total Petroleum Hydrocarbons

Batch DL01604 - 3510C

Blank

| | | | | | | | | | | |
|------------------------------|----|------|------|--|--|--|--|--|--|--|
| Decane (C10) | ND | 5.00 | ug/L | | | | | | | |
| Docosane (C22) | ND | 5.00 | ug/L | | | | | | | |
| Dodecane (C12) | ND | 5.00 | ug/L | | | | | | | |
| Eicosane (C20) | ND | 5.00 | ug/L | | | | | | | |
| Hexacosane (C26) | ND | 5.00 | ug/L | | | | | | | |
| Hexadecane (C16) | ND | 5.00 | ug/L | | | | | | | |
| Hexatriacontane (C36) | ND | 5.00 | ug/L | | | | | | | |
| Nonadecane (C19) | ND | 5.00 | ug/L | | | | | | | |
| Nonane (C9) | ND | 5.00 | ug/L | | | | | | | |
| Octacosane (C28) | ND | 5.00 | ug/L | | | | | | | |
| Octadecane (C18) | ND | 5.00 | ug/L | | | | | | | |
| Tetracosane (C24) | ND | 5.00 | ug/L | | | | | | | |
| Tetradecane (C14) | ND | 5.00 | ug/L | | | | | | | |
| Total Petroleum Hydrocarbons | ND | 100 | ug/L | | | | | | | |
| Triacontane (C30) | ND | 5.00 | ug/L | | | | | | | |

| | | | | | | | | | | |
|-------------------------------|------------|--|------|--------------|--|------------|---------------|--|--|--|
| <i>Surrogate: O-Terphenyl</i> | <i>103</i> | | ug/L | <i>100.0</i> | | <i>103</i> | <i>40-140</i> | | | |
|-------------------------------|------------|--|------|--------------|--|------------|---------------|--|--|--|

LCS

| | | | | | | | | | | |
|------------------------------|------|------|------|-------|--|----|--------|--|--|--|
| Decane (C10) | 35.5 | 5.00 | ug/L | 50.00 | | 71 | 40-140 | | | |
| Docosane (C22) | 44.4 | 5.00 | ug/L | 50.00 | | 89 | 40-140 | | | |
| Dodecane (C12) | 40.5 | 5.00 | ug/L | 50.00 | | 81 | 40-140 | | | |
| Eicosane (C20) | 44.4 | 5.00 | ug/L | 50.00 | | 89 | 40-140 | | | |
| Hexacosane (C26) | 43.9 | 5.00 | ug/L | 50.00 | | 88 | 40-140 | | | |
| Hexadecane (C16) | 41.3 | 5.00 | ug/L | 50.00 | | 83 | 40-140 | | | |
| Hexatriacontane (C36) | 46.6 | 5.00 | ug/L | 50.00 | | 93 | 40-140 | | | |
| Nonadecane (C19) | 45.6 | 5.00 | ug/L | 50.00 | | 91 | 40-140 | | | |
| Nonane (C9) | 30.1 | 5.00 | ug/L | 50.00 | | 60 | 30-140 | | | |
| Octacosane (C28) | 44.3 | 5.00 | ug/L | 50.00 | | 89 | 40-140 | | | |
| Octadecane (C18) | 42.4 | 5.00 | ug/L | 50.00 | | 85 | 40-140 | | | |
| Tetracosane (C24) | 44.1 | 5.00 | ug/L | 50.00 | | 88 | 40-140 | | | |
| Tetradecane (C14) | 40.0 | 5.00 | ug/L | 50.00 | | 80 | 40-140 | | | |
| Total Petroleum Hydrocarbons | 592 | 100 | ug/L | 700.0 | | 85 | 40-140 | | | |
| Triacontane (C30) | 43.4 | 5.00 | ug/L | 50.00 | | 87 | 40-140 | | | |

| | | | | | | | | | | |
|-------------------------------|-------------|--|------|--------------|--|-----------|---------------|--|--|--|
| <i>Surrogate: O-Terphenyl</i> | <i>95.4</i> | | ug/L | <i>100.0</i> | | <i>95</i> | <i>40-140</i> | | | |
|-------------------------------|-------------|--|------|--------------|--|-----------|---------------|--|--|--|

LCS Dup

| | | | | | | | | | | |
|-----------------------|------|------|------|-------|--|----|--------|---|----|--|
| Decane (C10) | 37.0 | 5.00 | ug/L | 50.00 | | 74 | 40-140 | 4 | 25 | |
| Docosane (C22) | 45.2 | 5.00 | ug/L | 50.00 | | 90 | 40-140 | 2 | 25 | |
| Dodecane (C12) | 43.0 | 5.00 | ug/L | 50.00 | | 86 | 40-140 | 6 | 25 | |
| Eicosane (C20) | 45.5 | 5.00 | ug/L | 50.00 | | 91 | 40-140 | 2 | 25 | |
| Hexacosane (C26) | 44.9 | 5.00 | ug/L | 50.00 | | 90 | 40-140 | 2 | 25 | |
| Hexadecane (C16) | 43.6 | 5.00 | ug/L | 50.00 | | 87 | 40-140 | 5 | 25 | |
| Hexatriacontane (C36) | 47.7 | 5.00 | ug/L | 50.00 | | 95 | 40-140 | 2 | 25 | |
| Nonadecane (C19) | 46.1 | 5.00 | ug/L | 50.00 | | 92 | 40-140 | 1 | 25 | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 20L0353

Quality Control Data

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

8100M Total Petroleum Hydrocarbons

Batch DL01604 - 3510C

| | | | | | | | | | | |
|------------------------------|------|------|------|-------|--|----|--------|---|----|--|
| Nonane (C9) | 31.1 | 5.00 | ug/L | 50.00 | | 62 | 30-140 | 3 | 25 | |
| Octacosane (C28) | 45.3 | 5.00 | ug/L | 50.00 | | 91 | 40-140 | 2 | 25 | |
| Octadecane (C18) | 44.1 | 5.00 | ug/L | 50.00 | | 88 | 40-140 | 4 | 25 | |
| Tetracosane (C24) | 45.1 | 5.00 | ug/L | 50.00 | | 90 | 40-140 | 2 | 25 | |
| Tetradecane (C14) | 41.3 | 5.00 | ug/L | 50.00 | | 83 | 40-140 | 3 | 25 | |
| Total Petroleum Hydrocarbons | 610 | 100 | ug/L | 700.0 | | 87 | 40-140 | 3 | 25 | |
| Triacontane (C30) | 44.4 | 5.00 | ug/L | 50.00 | | 89 | 40-140 | 2 | 25 | |

Surrogate: O-Terphenyl

95.4 ug/L 100.0 95 40-140

MADEP-EPH Extractable Petroleum Hydrocarbons

Batch DL01408 - 3510C

Blank

| | | | | | | | | | | |
|-----------------------|----|-----|------|--|--|--|--|--|--|--|
| C19-C36 Aliphatics1 | ND | 100 | ug/L | | | | | | | |
| C9-C18 Aliphatics1 | ND | 100 | ug/L | | | | | | | |
| Decane (C10) | ND | 5 | ug/L | | | | | | | |
| Docosane (C22) | ND | 5 | ug/L | | | | | | | |
| Dodecane (C12) | ND | 5 | ug/L | | | | | | | |
| Eicosane (C20) | ND | 5 | ug/L | | | | | | | |
| Hexacosane (C26) | ND | 5 | ug/L | | | | | | | |
| Hexadecane (C16) | ND | 5 | ug/L | | | | | | | |
| Hexatriacontane (C36) | ND | 5 | ug/L | | | | | | | |
| Nonadecane (C19) | ND | 5 | ug/L | | | | | | | |
| Nonane (C9) | ND | 5 | ug/L | | | | | | | |
| Octacosane (C28) | ND | 5 | ug/L | | | | | | | |
| Octadecane (C18) | ND | 5 | ug/L | | | | | | | |
| Tetracosane (C24) | ND | 5 | ug/L | | | | | | | |
| Tetradecane (C14) | ND | 5 | ug/L | | | | | | | |
| Triacontane (C30) | ND | 5 | ug/L | | | | | | | |

Surrogate: 1-Chlorooctadecane

31.0 ug/L 50.00 62 40-140

Blank

| | | | | | | | | | | |
|-------------------------------|-----|------|------|--|--|--|--|--|--|--|
| 2-Methylnaphthalene | ND | 5.0 | ug/L | | | | | | | |
| Acenaphthene | ND | 5.0 | ug/L | | | | | | | |
| Acenaphthylene | ND | 5.0 | ug/L | | | | | | | |
| Anthracene | ND | 5.0 | ug/L | | | | | | | |
| Benzo(a)anthracene | ND | 5.0 | ug/L | | | | | | | |
| Benzo(a)pyrene | ND | 10.0 | ug/L | | | | | | | |
| Benzo(b)fluoranthene | ND | 5.0 | ug/L | | | | | | | |
| Benzo(g,h,i)perylene | ND | 10.0 | ug/L | | | | | | | |
| Benzo(k)fluoranthene | ND | 10.0 | ug/L | | | | | | | |
| C11-C22 Unadjusted Aromatics1 | 172 | 100 | ug/L | | | | | | | |
| Chrysene | ND | 10.0 | ug/L | | | | | | | |
| Dibenzo(a,h)Anthracene | ND | 5.0 | ug/L | | | | | | | |
| Fluoranthene | ND | 10.0 | ug/L | | | | | | | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 20L0353

Quality Control Data

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

MADEP-EPH Extractable Petroleum Hydrocarbons

Batch DL01408 - 3510C

| | | | | | | | | | | |
|-------------------------------|------|------|------|-------|--|----|--------|--|--|--|
| Fluorene | ND | 5.0 | ug/L | | | | | | | |
| Indeno(1,2,3-cd)Pyrene | ND | 5.0 | ug/L | | | | | | | |
| Naphthalene | ND | 10.0 | ug/L | | | | | | | |
| Phenanthrene | ND | 5.0 | ug/L | | | | | | | |
| Pyrene | ND | 5.0 | ug/L | | | | | | | |
| Surrogate: 2-Bromonaphthalene | 40.8 | | ug/L | 50.00 | | 82 | 40-140 | | | |
| Surrogate: 2-Fluorobiphenyl | 47.6 | | ug/L | 50.00 | | 95 | 40-140 | | | |
| Surrogate: O-Terphenyl | 39.4 | | ug/L | 50.00 | | 79 | 40-140 | | | |

LCS

| | | | | | | | | | | |
|-----------------------|-----|-----|------|-------|--|----|--------|--|--|--|
| C19-C36 Aliphatics1 | 339 | 100 | ug/L | 400.0 | | 85 | 40-140 | | | |
| C9-C18 Aliphatics1 | 213 | 100 | ug/L | 300.0 | | 71 | 40-140 | | | |
| Decane (C10) | 23 | 5 | ug/L | 50.00 | | 46 | 40-140 | | | |
| Docosane (C22) | 44 | 5 | ug/L | 50.00 | | 87 | 40-140 | | | |
| Dodecane (C12) | 27 | 5 | ug/L | 50.00 | | 53 | 40-140 | | | |
| Eicosane (C20) | 43 | 5 | ug/L | 50.00 | | 86 | 40-140 | | | |
| Hexacosane (C26) | 43 | 5 | ug/L | 50.00 | | 86 | 40-140 | | | |
| Hexadecane (C16) | 40 | 5 | ug/L | 50.00 | | 79 | 40-140 | | | |
| Hexatriacontane (C36) | 33 | 5 | ug/L | 50.00 | | 66 | 40-140 | | | |
| Nonadecane (C19) | 43 | 5 | ug/L | 50.00 | | 85 | 40-140 | | | |
| Nonane (C9) | 18 | 5 | ug/L | 50.00 | | 35 | 30-140 | | | |
| Octacosane (C28) | 44 | 5 | ug/L | 50.00 | | 87 | 40-140 | | | |
| Octadecane (C18) | 42 | 5 | ug/L | 50.00 | | 84 | 40-140 | | | |
| Tetracosane (C24) | 44 | 5 | ug/L | 50.00 | | 87 | 40-140 | | | |
| Tetradecane (C14) | 34 | 5 | ug/L | 50.00 | | 67 | 40-140 | | | |
| Triacontane (C30) | 42 | 5 | ug/L | 50.00 | | 84 | 40-140 | | | |

Surrogate: 1-Chlorooctadecane

33.1 ug/L 50.00 66 40-140

LCS

| | | | | | | | | | | |
|-------------------------------|------|------|------|-------|--|-----|--------|--|--|--|
| 2-Methylnaphthalene | 40.4 | 5.0 | ug/L | 50.00 | | 81 | 40-140 | | | |
| Acenaphthene | 43.4 | 5.0 | ug/L | 50.00 | | 87 | 40-140 | | | |
| Acenaphthylene | 43.5 | 5.0 | ug/L | 50.00 | | 87 | 40-140 | | | |
| Anthracene | 48.3 | 5.0 | ug/L | 50.00 | | 97 | 40-140 | | | |
| Benzo(a)anthracene | 41.2 | 5.0 | ug/L | 50.00 | | 82 | 40-140 | | | |
| Benzo(a)pyrene | 42.1 | 10.0 | ug/L | 50.00 | | 84 | 40-140 | | | |
| Benzo(b)fluoranthene | 37.7 | 5.0 | ug/L | 50.00 | | 75 | 40-140 | | | |
| Benzo(g,h,i)perylene | 42.0 | 10.0 | ug/L | 50.00 | | 84 | 40-140 | | | |
| Benzo(k)fluoranthene | 42.5 | 10.0 | ug/L | 50.00 | | 85 | 40-140 | | | |
| C11-C22 Unadjusted Aromatics1 | 942 | 100 | ug/L | 850.0 | | 111 | 40-140 | | | |
| Chrysene | 41.1 | 10.0 | ug/L | 50.00 | | 82 | 40-140 | | | |
| Dibenzo(a,h)Anthracene | 42.9 | 5.0 | ug/L | 50.00 | | 86 | 40-140 | | | |
| Fluoranthene | 41.8 | 10.0 | ug/L | 50.00 | | 84 | 40-140 | | | |
| Fluorene | 43.0 | 5.0 | ug/L | 50.00 | | 86 | 40-140 | | | |
| Indeno(1,2,3-cd)Pyrene | 43.8 | 5.0 | ug/L | 50.00 | | 88 | 40-140 | | | |
| Naphthalene | 38.3 | 10.0 | ug/L | 50.00 | | 77 | 40-140 | | | |
| Phenanthrene | 43.1 | 5.0 | ug/L | 50.00 | | 86 | 40-140 | | | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 20L0353

Quality Control Data

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

MADEP-EPH Extractable Petroleum Hydrocarbons

Batch DL01408 - 3510C

| | | | | | | | | | | |
|-------------------------------|------|-----|------|-------|--|-----|--------|--|--|--|
| Pyrene | 42.6 | 5.0 | ug/L | 50.00 | | 85 | 40-140 | | | |
| Surrogate: 2-Bromonaphthalene | 41.8 | | ug/L | 50.00 | | 84 | 40-140 | | | |
| Surrogate: 2-Fluorobiphenyl | 52.1 | | ug/L | 50.00 | | 104 | 40-140 | | | |
| Surrogate: O-Terphenyl | 41.5 | | ug/L | 50.00 | | 83 | 40-140 | | | |

LCS

| | | | | | | | | | | |
|----------------------------------|-----|--|---|--|--|--|-----|--|--|--|
| 2-Methylnaphthalene Breakthrough | 0.0 | | % | | | | 0-5 | | | |
| Naphthalene Breakthrough | 0.0 | | % | | | | 0-5 | | | |

LCS Dup

| | | | | | | | | | | |
|-----------------------|-----|-----|------|-------|--|----|--------|-------|----|--|
| C19-C36 Aliphatics1 | 340 | 100 | ug/L | 400.0 | | 85 | 40-140 | 0.3 | 25 | |
| C9-C18 Aliphatics1 | 205 | 100 | ug/L | 300.0 | | 68 | 40-140 | 4 | 25 | |
| Decane (C10) | 23 | 5 | ug/L | 50.00 | | 46 | 40-140 | 0.2 | 25 | |
| Docosane (C22) | 44 | 5 | ug/L | 50.00 | | 88 | 40-140 | 0.3 | 25 | |
| Dodecane (C12) | 26 | 5 | ug/L | 50.00 | | 52 | 40-140 | 2 | 25 | |
| Eicosane (C20) | 43 | 5 | ug/L | 50.00 | | 87 | 40-140 | 0.3 | 25 | |
| Hexacosane (C26) | 43 | 5 | ug/L | 50.00 | | 87 | 40-140 | 0.4 | 25 | |
| Hexadecane (C16) | 40 | 5 | ug/L | 50.00 | | 80 | 40-140 | 0.8 | 25 | |
| Hexatriacontane (C36) | 33 | 5 | ug/L | 50.00 | | 66 | 40-140 | 0.003 | 25 | |
| Nonadecane (C19) | 43 | 5 | ug/L | 50.00 | | 85 | 40-140 | 0.3 | 25 | |
| Nonane (C9) | 18 | 5 | ug/L | 50.00 | | 35 | 30-140 | 0.006 | 25 | |
| Octacosane (C28) | 44 | 5 | ug/L | 50.00 | | 87 | 40-140 | 0.5 | 25 | |
| Octadecane (C18) | 42 | 5 | ug/L | 50.00 | | 84 | 40-140 | 0.4 | 25 | |
| Tetracosane (C24) | 44 | 5 | ug/L | 50.00 | | 88 | 40-140 | 0.4 | 25 | |
| Tetradecane (C14) | 34 | 5 | ug/L | 50.00 | | 67 | 40-140 | 0.1 | 25 | |
| Triacontane (C30) | 42 | 5 | ug/L | 50.00 | | 84 | 40-140 | 0.6 | 25 | |

| | | | | | | | | | | |
|-------------------------------|------|--|------|-------|--|----|--------|--|--|--|
| Surrogate: 1-Chlorooctadecane | 35.2 | | ug/L | 50.00 | | 70 | 40-140 | | | |
|-------------------------------|------|--|------|-------|--|----|--------|--|--|--|

LCS Dup

| | | | | | | | | | | |
|-------------------------------|------|------|------|-------|--|-----|--------|-----|----|--|
| 2-Methylnaphthalene | 37.5 | 5.0 | ug/L | 50.00 | | 75 | 40-140 | 8 | 20 | |
| Acenaphthene | 41.0 | 5.0 | ug/L | 50.00 | | 82 | 40-140 | 6 | 20 | |
| Acenaphthylene | 38.5 | 5.0 | ug/L | 50.00 | | 77 | 40-140 | 12 | 20 | |
| Anthracene | 46.7 | 5.0 | ug/L | 50.00 | | 93 | 40-140 | 3 | 20 | |
| Benzo(a)anthracene | 38.1 | 5.0 | ug/L | 50.00 | | 76 | 40-140 | 8 | 20 | |
| Benzo(a)pyrene | 38.6 | 10.0 | ug/L | 50.00 | | 77 | 40-140 | 9 | 20 | |
| Benzo(b)fluoranthene | 36.9 | 5.0 | ug/L | 50.00 | | 74 | 40-140 | 2 | 20 | |
| Benzo(g,h,i)perylene | 40.3 | 10.0 | ug/L | 50.00 | | 81 | 40-140 | 4 | 20 | |
| Benzo(k)fluoranthene | 40.3 | 10.0 | ug/L | 50.00 | | 81 | 40-140 | 5 | 20 | |
| C11-C22 Unadjusted Aromatics1 | 876 | 100 | ug/L | 850.0 | | 103 | 40-140 | 7 | 25 | |
| Chrysene | 39.7 | 10.0 | ug/L | 50.00 | | 79 | 40-140 | 4 | 20 | |
| Dibenzo(a,h)Anthracene | 41.7 | 5.0 | ug/L | 50.00 | | 83 | 40-140 | 3 | 20 | |
| Fluoranthene | 38.8 | 10.0 | ug/L | 50.00 | | 78 | 40-140 | 8 | 20 | |
| Fluorene | 38.9 | 5.0 | ug/L | 50.00 | | 78 | 40-140 | 10 | 20 | |
| Indeno(1,2,3-cd)Pyrene | 43.7 | 5.0 | ug/L | 50.00 | | 87 | 40-140 | 0.3 | 20 | |
| Naphthalene | 36.5 | 10.0 | ug/L | 50.00 | | 73 | 40-140 | 5 | 20 | |
| Phenanthrene | 41.0 | 5.0 | ug/L | 50.00 | | 82 | 40-140 | 5 | 20 | |
| Pyrene | 41.5 | 5.0 | ug/L | 50.00 | | 83 | 40-140 | 3 | 20 | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 20L0353

Quality Control Data

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
| MADEP-EPH Extractable Petroleum Hydrocarbons | | | | | | | | | | |
| Batch DL01408 - 3510C | | | | | | | | | | |
| <i>Surrogate: 2-Bromonaphthalene</i> | 39.8 | | ug/L | 50.00 | | 80 | 40-140 | | | |
| <i>Surrogate: 2-Fluorobiphenyl</i> | 48.8 | | ug/L | 50.00 | | 98 | 40-140 | | | |
| <i>Surrogate: O-Terphenyl</i> | 39.0 | | ug/L | 50.00 | | 78 | 40-140 | | | |
| LCS Dup | | | | | | | | | | |
| 2-Methylnaphthalene Breakthrough | 0.0 | | % | | | | 0-5 | | 200 | |
| Naphthalene Breakthrough | 0.0 | | % | | | | 0-5 | | 200 | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 20L0353

Notes and Definitions

- Z-06 pH <= 2
- Z-01 Resembles: Transformer Oil Range.
- U Analyte included in the analysis, but not detected
- CD- Continuing Calibration %Diff/Drift is below control limit (CD-).
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit
- MF Membrane Filtration
- MPN Most Probably Number
- TNTC Too numerous to Count
- CFU Colony Forming Units



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 20L0353

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tighe & Bond - KPB/TB
 Shipped/Delivered Via: ESS Courier

ESS Project ID: 20L0353
 Date Received: 12/10/2020
 Project Due Date: 12/17/2020
 Days for Project: 5 Day

1. Air bill manifest present? No
 Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
 Temp: 3.6 Iced with: Ice
5. Was COC signed and dated by client? Yes

6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. Were labs informed about short holds & rushes? Yes / No / NA
10. Were any analyses received outside of hold time? Yes / No

11. Any Subcontracting needed? Yes / No
 ESS Sample IDs: _____
 Analysis: _____
 TAT: _____

12. Were VOAs received? Yes / No
 a. Air bubbles in aqueous VOAs? Yes / No
 b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved? Yes / No
 a. If metals preserved upon receipt: Date: _____ Time: _____ By: _____
 b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / No
 a. Was there a need to contact the client? Yes / No
 Who was contacted? _____ Date: _____ Time: _____ By: _____

| Sample Number | Container ID | Proper Container | Air Bubbles Present | Sufficient Volume | Container Type | Preservative | Record pH (Cyanide and 608 Pesticides) |
|---------------|--------------|------------------|---------------------|-------------------|----------------|--------------|--|
| 1 | 117944 | Yes | N/A | Yes | 1L Amber | HCl | |
| 1 | 118711 | Yes | N/A | Yes | 1L Amber | HCl | |
| 2 | 117945 | Yes | N/A | Yes | 1L Amber | HCl | |
| 2 | 118712 | Yes | N/A | Yes | 1L Amber | HCl | |
| 3 | 117946 | Yes | N/A | Yes | 1L Amber | HCl | |
| 3 | 118713 | Yes | N/A | Yes | 1L Amber | HCl | |

2nd Review

Were all containers scanned into storage/lab?

Initials: [Signature]
 Yes / No
 Yes / No / NA
 Yes / No / NA
 Yes / No / NA
 Yes / No / NA

- Are barcode labels on correct containers?
 Are all Flashpoint stickers attached/container ID # circled?
 Are all Hex Chrome stickers attached?
 Are all QC stickers attached?
 Are VOA stickers attached if bubbles noted?

Completed By: [Signature] Date & Time: 12/11/20 11:01
 Reviewed By: [Signature] Date & Time: 12/10/20 13:44

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tighe & Bond - KPB/TB

ESS Project ID: 20L0353

Date Received: 12/10/2020

Delivered
By:



12/10/20

1344



Laboratory Analysis Report

244916

Tighe & Bond



CUSTOMER INFORMATION ORDER INFORMATION REPORT AUTHORIZATION

Address: Tighe & Bond
53 S Hampton Road

Westfield, MA 01085

Primary Contact: Ryan Basting

Primary Email: rmbasting@tighebond.com

Purchase Order: 235067

Submitter Ref:

Date Received: 10/05/2020

Report Revision:

Authorized By: Flecker, Ben

Email: BFlecker@doble.com

Authorization Signature:
Benjamin Flecker

Date Report Issued: 10/05/2020

Thank you for using Doble Engineering analytical laboratory services, we greatly appreciate the opportunity to serve you and value your business. In accordance with your request, we have performed testing on the sample(s) provided. If the sampling date is not provided, the sample receipt date is used to provide chronological information. Should you have any comments, suggestions or questions please feel free to contact us at the Email listed above.

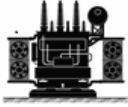
Samples Requiring Immediate Attention

Doble Engineering and Morgan Schaffer Laboratories are ISO/IEC 17025 Accredited

The analyses contained in this report are based upon material and information supplied by the customer. Doble Engineering/ Morgan Schaffer do not imply that the contents of the sample received are the same as all such material in the environment from which the sample was taken. Our test results only relate to the sample(s) tested. Doble Engineering/ Morgan Schaffer assume no responsibility and makes no warranty or representation as provided in the Doble Terms and Conditions Revision 030232020. This report must not be reproduced, unless in its entirety, without the written consent of Doble Engineering. (^Accredited Tests (from the start date of each lab's accreditation), † Subcontracted Tests, *Non-Doble/MS Imported Test Results).

Doble Engineering Company - 123 Felton Street, Marlboro, MA 01752

| | APPARATUS DETAIL | SAMPLING INFORMATION |
|--|------------------|----------------------|
|--|------------------|----------------------|

TRANSFORMER


Serial Number: 83JL073026
Equipment No:
XFMR/TRN Name:
Substation:
Manufacturer: Westinghouse Electric
Year Made:

Cooling:
Max KV:
Max MVA:
XFMR/TRN Type:
Design Type:
1 or 3 Phase:

Temp Rise C:
Preservation:
Liquid Type:
Volume:
Vol Units:
Limit Set: Doble

Syringe No:
Misc. ID:
Work Order:
Sample Date: 10/04/2020
Sample Time: 2:35 pm
Sampling Reason:

Sampled By:
Sample Point: Bottom
Top Oil Temp C:
Humidity:
Amb Temp C:

Sample Id: 244916-001 **Serial Number:** 83JL073026 **Misc Id:**

Miscellaneous Tests

| | |
|-----------------------------|------------|
| Sample Date: | 10/4/2020 |
| Analysis Date: | 10/5/2020 |
| Doble Sample Id: | 244916-001 |
| Top Oil Temperature: | |

| | | |
|------------------|---------------|----|
| PCB Content | D4059 (ppm)^ | <2 |
| Aroclor Detected | ^ | ND |

^These samples were performed under the Doble and Morgan Schaffer laboratories ISO 17025 accreditation. (Accreditation Date: 10/1/2018)

*Imported results from non-Doble or Morgan Schaffer sources, the accuracy of the results cannot be determined

Comments: This sample is considered to be 'Non-PCB' (<50 ppm) per EPA regulations listed in 40 CFR part 761.



CERTIFICATE OF ANALYSIS

Matt Abraham
Tighe & Bond
120 Front Street, Suite 7
Worcester, MA 01608

RE: MEC - 131 Morse St Foxborough MA (N-5067-084)
ESS Laboratory Work Order Number: 21C0376

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 4:17 pm, Mar 17, 2021

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 21C0376

SAMPLE RECEIPT

The following samples were received on March 10, 2021 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Question I: All samples for EPH were analyzed for a subset of the required MCP list per the client's request.

GC-FID Fingerprint

Sample Emulsified Product (21C0376-01) contained a mixture of material eluting in the mid to heavy molecular weight ranges of the chromatogram. This material is similar to a combination of near equal parts of transformer oil and a heavier molecular weight material eluting in the lubricating oil range. Examples of this heavier material are waste, lubricating and motor oils.

| <u>Lab Number</u> | <u>Sample Name</u> | <u>Matrix</u> | <u>Analysis</u> |
|-------------------|--------------------|---------------|-----------------|
| 21C0376-01 | Emulsified Product | Aqueous | 8100M |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 21C0376

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 21C0376

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: MEC - 131 Morse St Foxborough MA
Client Sample ID: Emulsified Product
Date Sampled: 03/09/21 12:30
Percent Solids: N/A
Initial Volume: 10
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 21C0376
ESS Laboratory Sample ID: 21C0376-01
Sample Matrix: Aqueous
Units: ug/L
Analyst: TLW
Prepared: 3/11/21 16:28

8100M Total Petroleum Hydrocarbons

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|------------------------------|----------------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Total Petroleum Hydrocarbons | 16400 (10000) | | 8100M | | 1 | 03/16/21 13:33 | D1C0277 | DC11107 |
| Fingerprint | Resembles: See Narrative.. | | | | | | | |

| | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-------------------------------|------------------|------------------|---------------|
| <i>Surrogate: O-Terphenyl</i> | 123 % | | 40-140 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 21C0376

Quality Control Data

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

8100M Total Petroleum Hydrocarbons

Batch DC11107 - 3510C

Blank

| | | | | | | | | | | |
|------------------------------|----|------|------|--|--|--|--|--|--|--|
| Decane (C10) | ND | 5.00 | ug/L | | | | | | | |
| Docosane (C22) | ND | 5.00 | ug/L | | | | | | | |
| Dodecane (C12) | ND | 5.00 | ug/L | | | | | | | |
| Eicosane (C20) | ND | 5.00 | ug/L | | | | | | | |
| Hexacosane (C26) | ND | 5.00 | ug/L | | | | | | | |
| Hexadecane (C16) | ND | 5.00 | ug/L | | | | | | | |
| Hexatriacontane (C36) | ND | 5.00 | ug/L | | | | | | | |
| Nonadecane (C19) | ND | 5.00 | ug/L | | | | | | | |
| Nonane (C9) | ND | 5.00 | ug/L | | | | | | | |
| Octacosane (C28) | ND | 5.00 | ug/L | | | | | | | |
| Octadecane (C18) | ND | 5.00 | ug/L | | | | | | | |
| Tetracosane (C24) | ND | 5.00 | ug/L | | | | | | | |
| Tetradecane (C14) | ND | 5.00 | ug/L | | | | | | | |
| Total Petroleum Hydrocarbons | ND | 100 | ug/L | | | | | | | |
| Triacontane (C30) | ND | 5.00 | ug/L | | | | | | | |

| | | | | | | | | | | |
|-------------------------------|------------|--|------|--------------|--|------------|---------------|--|--|--|
| <i>Surrogate: O-Terphenyl</i> | <i>103</i> | | ug/L | <i>100.0</i> | | <i>103</i> | <i>40-140</i> | | | |
|-------------------------------|------------|--|------|--------------|--|------------|---------------|--|--|--|

LCS

| | | | | | | | | | | |
|------------------------------|------|------|------|-------|--|----|--------|--|--|--|
| Decane (C10) | 35.4 | 5.00 | ug/L | 50.00 | | 71 | 40-140 | | | |
| Docosane (C22) | 43.0 | 5.00 | ug/L | 50.00 | | 86 | 40-140 | | | |
| Dodecane (C12) | 40.9 | 5.00 | ug/L | 50.00 | | 82 | 40-140 | | | |
| Eicosane (C20) | 43.0 | 5.00 | ug/L | 50.00 | | 86 | 40-140 | | | |
| Hexacosane (C26) | 43.0 | 5.00 | ug/L | 50.00 | | 86 | 40-140 | | | |
| Hexadecane (C16) | 42.5 | 5.00 | ug/L | 50.00 | | 85 | 40-140 | | | |
| Hexatriacontane (C36) | 48.8 | 5.00 | ug/L | 50.00 | | 98 | 40-140 | | | |
| Nonadecane (C19) | 43.0 | 5.00 | ug/L | 50.00 | | 86 | 40-140 | | | |
| Nonane (C9) | 30.1 | 5.00 | ug/L | 50.00 | | 60 | 30-140 | | | |
| Octacosane (C28) | 43.1 | 5.00 | ug/L | 50.00 | | 86 | 40-140 | | | |
| Octadecane (C18) | 42.5 | 5.00 | ug/L | 50.00 | | 85 | 40-140 | | | |
| Tetracosane (C24) | 43.2 | 5.00 | ug/L | 50.00 | | 86 | 40-140 | | | |
| Tetradecane (C14) | 42.1 | 5.00 | ug/L | 50.00 | | 84 | 40-140 | | | |
| Total Petroleum Hydrocarbons | 605 | 100 | ug/L | 700.0 | | 86 | 40-140 | | | |
| Triacontane (C30) | 42.6 | 5.00 | ug/L | 50.00 | | 85 | 40-140 | | | |

| | | | | | | | | | | |
|-------------------------------|-------------|--|------|--------------|--|-----------|---------------|--|--|--|
| <i>Surrogate: O-Terphenyl</i> | <i>92.0</i> | | ug/L | <i>100.0</i> | | <i>92</i> | <i>40-140</i> | | | |
|-------------------------------|-------------|--|------|--------------|--|-----------|---------------|--|--|--|

LCS Dup

| | | | | | | | | | | |
|-----------------------|------|------|------|-------|--|-----|--------|----|----|--|
| Decane (C10) | 44.1 | 5.00 | ug/L | 50.00 | | 88 | 40-140 | 22 | 25 | |
| Docosane (C22) | 54.8 | 5.00 | ug/L | 50.00 | | 110 | 40-140 | 24 | 25 | |
| Dodecane (C12) | 51.6 | 5.00 | ug/L | 50.00 | | 103 | 40-140 | 23 | 25 | |
| Eicosane (C20) | 54.8 | 5.00 | ug/L | 50.00 | | 110 | 40-140 | 24 | 25 | |
| Hexacosane (C26) | 54.8 | 5.00 | ug/L | 50.00 | | 110 | 40-140 | 24 | 25 | |
| Hexadecane (C16) | 53.7 | 5.00 | ug/L | 50.00 | | 107 | 40-140 | 23 | 25 | |
| Hexatriacontane (C36) | 60.8 | 5.00 | ug/L | 50.00 | | 122 | 40-140 | 22 | 25 | |
| Nonadecane (C19) | 54.4 | 5.00 | ug/L | 50.00 | | 109 | 40-140 | 23 | 25 | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 21C0376

Quality Control Data

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---|------------|------|-------------|--------------|---------------|------------|---------------|-----|-----------|-----------|
| 8100M Total Petroleum Hydrocarbons | | | | | | | | | | |
| Batch DC11107 - 3510C | | | | | | | | | | |
| Nonane (C9) | 36.5 | 5.00 | ug/L | 50.00 | | 73 | 30-140 | 19 | 25 | |
| Octacosane (C28) | 54.8 | 5.00 | ug/L | 50.00 | | 110 | 40-140 | 24 | 25 | |
| Octadecane (C18) | 54.1 | 5.00 | ug/L | 50.00 | | 108 | 40-140 | 24 | 25 | |
| Tetracosane (C24) | 54.9 | 5.00 | ug/L | 50.00 | | 110 | 40-140 | 24 | 25 | |
| Tetradecane (C14) | 53.3 | 5.00 | ug/L | 50.00 | | 107 | 40-140 | 23 | 25 | |
| Total Petroleum Hydrocarbons | 769 | 100 | ug/L | 700.0 | | 110 | 40-140 | 24 | 25 | |
| Triacotane (C30) | 54.3 | 5.00 | ug/L | 50.00 | | 109 | 40-140 | 24 | 25 | |
| <i>Surrogate: O-Terphenyl</i> | <i>116</i> | | <i>ug/L</i> | <i>100.0</i> | | <i>116</i> | <i>40-140</i> | | | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 21C0376

Notes and Definitions

- Z-01 Resembles: See Narrative..
- U Analyte included in the analysis, but not detected
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit
- MF Membrane Filtration
- MPN Most Probably Number
- TNTC Too numerous to Count
- CFU Colony Forming Units



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 21C0376

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

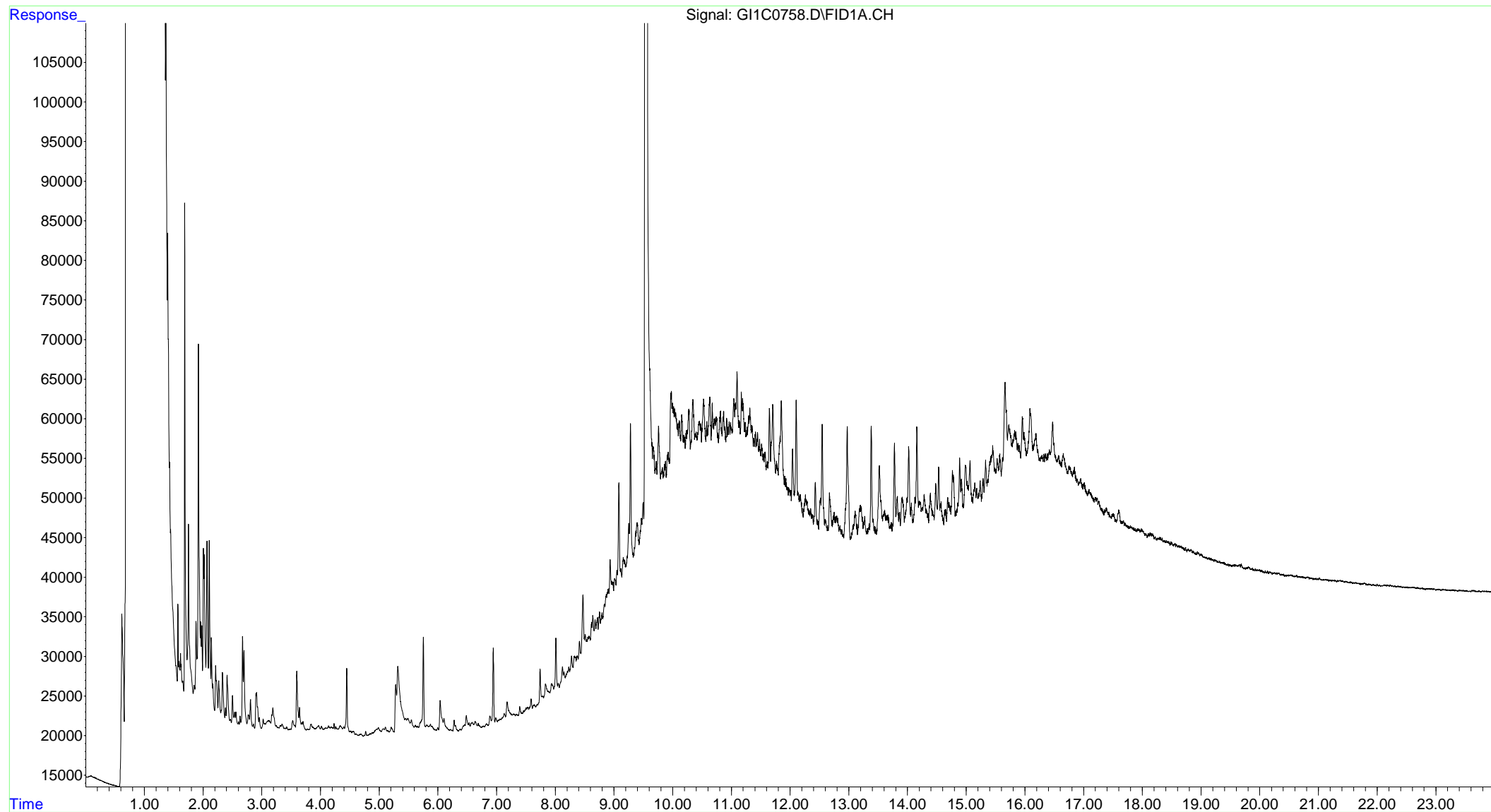
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

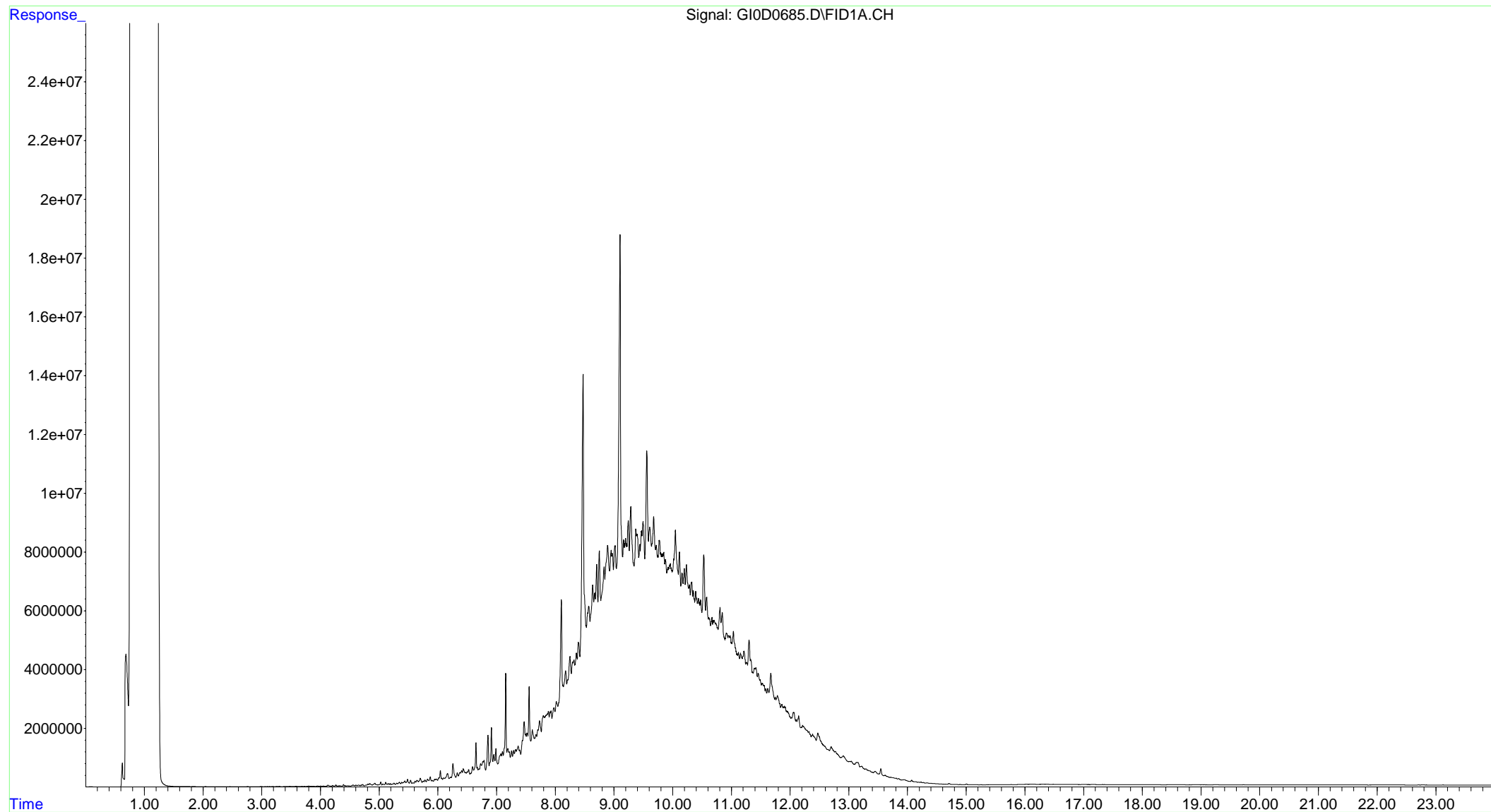
Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

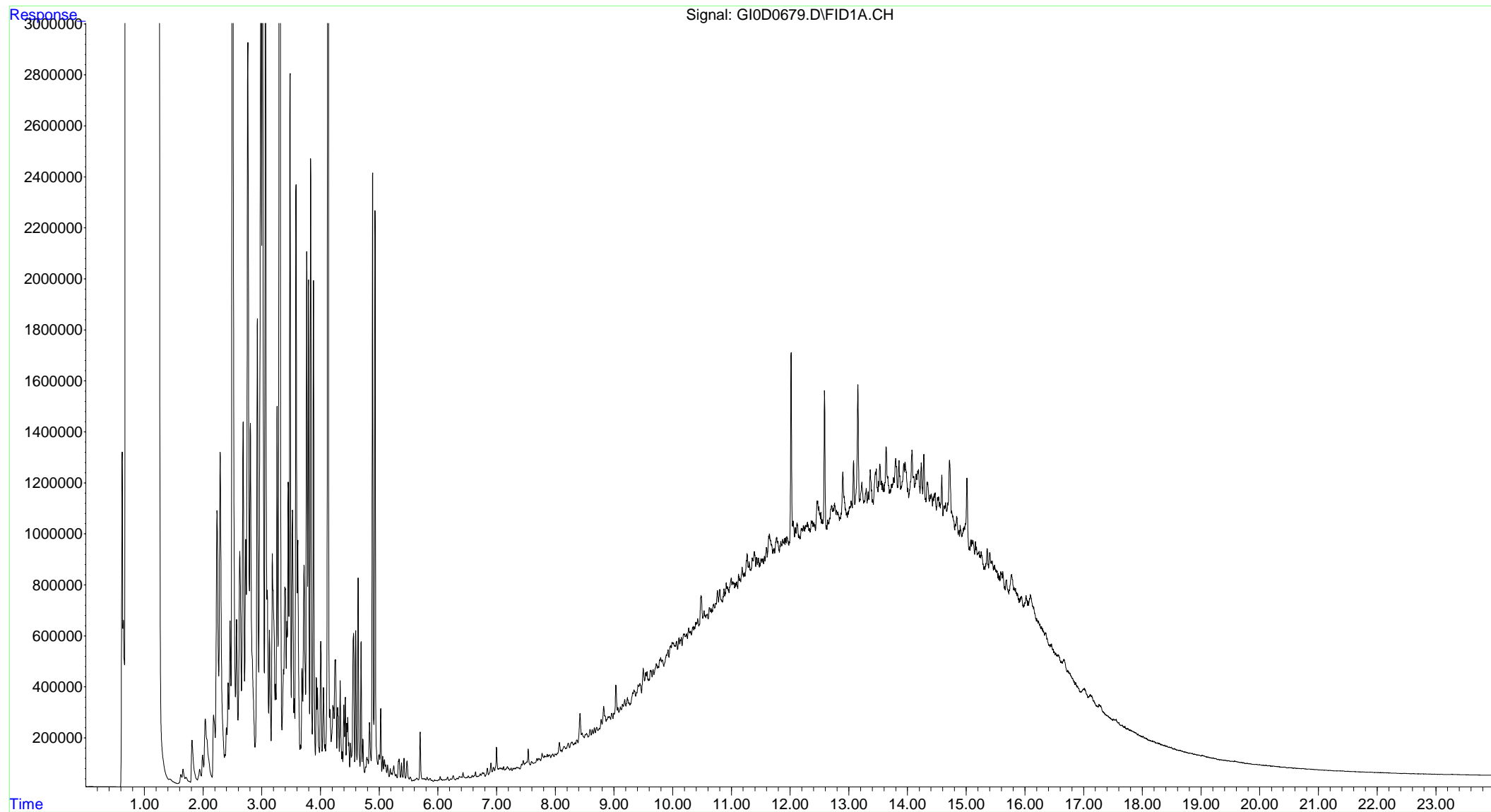
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Operator : TLW
Acquired : 16 Mar 2021 1:33 pm using AcqMethod TPH9ACQF.M
Instrument : SVOAGC9
Sample Name: 21C0376-01
Misc Info :
Vial Number: 3



File :Q:\SVOA\GC9_GK\FP Standards\FP Overlay 042820\GI0D0685.D
Operator : CAD
Acquired : 29 Apr 2020 1:21 am using AcqMethod TPH9T1.M
Instrument : SVOAGC9
Sample Name: Transformer Oil
Misc Info :
Vial Number: 29



File :Q:\SVOA\GC9_GK\FP Standards\FP Overlay 042820\GI0D0679.D
Operator : CAD
Acquired : 28 Apr 2020 10:05 pm using AcqMethod TPH9T1.M
Instrument : SVOAGC9
Sample Name: Used Motor Oil
Misc Info :
Vial Number: 23



ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tighe & Bond - KPB/TB

ESS Project ID: 21C0376

Shipped/Delivered Via: ESS Courier

Date Received: 3/10/2021

Project Due Date: 3/15/2021

Days for Project: 3 Day

- 1. Air bill manifest present? No
Air No.: NA
- 2. Were custody seals present? No
- 3. Is radiation count <100 CPM? Yes
- 4. Is a Cooler Present? Yes
Temp: 3.2 Iced with: Ice
- 5. Was COC signed and dated by client? Yes

- 6. Does COC match bottles? Yes
- 7. Is COC complete and correct? Yes
- 8. Were samples received intact? Yes
- 9. Were labs informed about short holds & rushes? Yes / No / NA
- 10. Were any analyses received outside of hold time? Yes / No

- 11. Any Subcontracting needed? Yes / No
ESS Sample IDs: _____
Analysis: _____
TAT: _____

- 12. Were VOAs received? Yes / No / NA
a. Air bubbles in aqueous VOAs? Yes / No / NA
b. Does methanol cover soil completely? Yes / No / NA

- 13. Are the samples properly preserved? Yes / No
a. If metals preserved upon receipt: Date: _____ Time: _____ By: _____
b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____

Sample Receiving Notes:

- 14. Was there a need to contact Project Manager? Yes / No
a. Was there a need to contact the client? Yes / No
Who was contacted? _____ Date: _____ Time: _____ By: _____

| Sample Number | Container ID | Proper Container | Air Bubbles Present | Sufficient Volume | Container Type | Preservative | Record pH (Cyanide and 608 Pesticides) |
|---------------|--------------|------------------|---------------------|-------------------|----------------|--------------|--|
| 1 | 142114 | Yes | N/A | Yes | 8 oz jar | NP | |

2nd Review

- Were all containers scanned into storage/lab? Initials: TD
- Are barcode labels on correct containers? Yes / No
- Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
- Are all Hex Chrome stickers attached? Yes / No / NA
- Are all QC stickers attached? Yes / No / NA
- Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: [Signature] Date & Time: 18:57 3/10/21
 Reviewed By: [Signature] Date & Time: 3/10/21 1904



CERTIFICATE OF ANALYSIS

Matt Abraham
Tighe & Bond
4 Barlows Landing Rd., Unit 15
Pocasset, MA 02559

RE: 131 Morse St. Foxborough MA (N-5067-084)
ESS Laboratory Work Order Number: F210005

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 12:40 pm, Apr 13, 2021

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

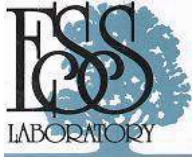
Client Name: Tighe & Bond
Client Project ID: 131 Morse St. Foxborough MA

ESS Laboratory Work Order: F210005

SAMPLE RECEIPT

The following samples were received on April 02, 2021 for the analyses specified on the enclosed Chain of Custody Record.

| Lab Number | Sample Name | Matrix | Analysis |
|-------------------|---------------------------|---------------|-----------------|
| F210005-01 | emulsified product 4/2/21 | Net | 8015 Mod |
| F210005-02 | PX-5 | Soil | 8015 Mod |



Client Name: Tighe & Bond

Client Project ID: 131 Morse St. Foxborough, MA

ESS Laboratory Work Order: F210005

PROJECT NARRATIVE

1 net sample was received on 04-02-2021. 1 reference soil sample was received on 03/02/2021 and held in frozen storage.

The net and soil sample were prepared by solvent extraction (EPA 3570) using dichloromethane (DCM). The extracts were spiked with internal standard and analyzed by GC/FID (EPA 8015M) for fingerprinting.

Total Petroleum Hydrocarbons (GC-FID Fingerprint)

Sample emulsified product 4/2/21 (F210005-01) contained material eluting in the n-tetradecane (c14) to n-tetracontane (c40) hydrocarbon range. The material present appears to be similar to a dielectric fluid/transformer oil. The distribution of alkanes and slight unresolved complex mixture (UCM) at the end of the chromatogram indicates the presence of humic material. It was noted prior to extraction that the sheen sampler had the presence of soil/sediment and plant material.

The sample was compared to reference soil sample PX-5 (F210005-02). The material present in both samples appear to be from similar sources. Chromatographic differences could be contributed but not limited to the differences in matrix, solubility and water washing of the material present on the sheen sampler and potential weathering differences of each sample. These differences do not allow for a definitive chromatographic determination to be made.



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: 131 Morse St. Foxborough MA

ESS Laboratory Work Order: F210005

PROJECT NARRATIVE

All quality control parameters met the specified criteria.

End of Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: 131 Morse St. Foxborough MA

ESS Laboratory Work Order: F210005

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015B Mod - TPH by GCFID
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D Mod - Alkylated PAHs and Benzenes
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3511 - Microsolvent Extraction Aqueous
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3570 - Microsolvent Extraction Soild
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
 Client Project ID: 131 Morse St. Foxborough MA
 Client Sample ID: emulsified product 4/2/21
 Date Sampled: 04/02/21 10:00
 Percent Solids: N/A
 Initial Volume: 1
 Final Volume: 2
 Extraction Method: 3570

ESS Laboratory Work Order: F210005
 ESS Laboratory Sample ID: F210005-01
 Sample Matrix: Net
 Units: ug/Net
 Analyst: NXL
 Prepared: 4/7/21 6:50

Saturated Hydrocarbons by GC/FID

| <u>Analyte</u> | <u>Results (RL)</u> | <u>EDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|-----------------|--------------|
| C-8 | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-9 | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-10 | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-11 | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-12 | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-13 | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| 2,6,10-trimethyldodecane (1380) | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-14 | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| 2,6,10-trimethyltridecane (1470) | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-15 | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-16 | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| 2,6,10-trimethylpentadecane (1650) | J 5.36 (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-17 | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| Pristane | 17.4 (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-18 | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| Phytane | 40.7 (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-19 | J 9.92 (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-20 | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-21 | 22.3 (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-22 | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-23 | 10.3 (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-24 | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-25 | 41.6 (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-26 | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-27 | 39.9 (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-28 | J 5.82 (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-29 | 141 (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-30 | J 9.31 (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-31 | 60.2 (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-32 | J 8.63 (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-33 | 28.4 (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-34 | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: 131 Morse St. Foxborough MA
Client Sample ID: emulsified product 4/2/21
Date Sampled: 04/02/21 10:00
Percent Solids: N/A
Initial Volume: 1
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F210005
ESS Laboratory Sample ID: F210005-01
Sample Matrix: Net
Units: ug/Net
Analyst: NXL
Prepared: 4/7/21 6:50

Saturated Hydrocarbons by GC/FID

| <u>Analyte</u> | <u>Results (RL)</u> | <u>EDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------|---------------------|------------|---------------|--------------|-----------|----------------|-----------------|-----------------|--------------|
| C-35 | J 8.22 (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-36 | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-37 | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-38 | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-39 | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| C-40 | ND (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |
| TPH (C8-C40) | 22300 (10.0) | 5.00 | 8015 Mod | | 5 | NXL | 04/08/21 9:02 | F1D0005 | FD10701 |

| | | | |
|-------------------------------|------------------|------------------|---------------|
| | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
| <i>Surrogate: o-Terphenyl</i> | 63 % | | 50-120 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: 131 Morse St. Foxborough MA
Client Sample ID: PX-5
Date Sampled: 02/24/21 14:20
Percent Solids: 83
Initial Volume: 2.6
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F210005
ESS Laboratory Sample ID: F210005-02
Sample Matrix: Soil
Units: mg/Kg dry
Analyst: NXL
Prepared: 4/7/21 6:50

Saturated Hydrocarbons by GC/FID

| <u>Analyte</u> | <u>Results (RL)</u> | <u>EDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|-----------------|--------------|
| C-8 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-9 | J 3.34 (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-10 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-11 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-12 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-13 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| 2,6,10-trimethyldecane (1380) | J 2.57 (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-14 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| 2,6,10-trimethyltridecane (1470) | 18.0 (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-15 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-16 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| 2,6,10-trimethylpentadecane (1650) | 25.9 (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-17 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| Pristane | 53.6 (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-18 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| Phytane | 80.8 (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-19 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-20 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-21 | 24.2 (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-22 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-23 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-24 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-25 | J 3.15 (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-26 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-27 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-28 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-29 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-30 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-31 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-32 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-33 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-34 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: 131 Morse St. Foxborough MA
Client Sample ID: PX-5
Date Sampled: 02/24/21 14:20
Percent Solids: 83
Initial Volume: 2.6
Final Volume: 2
Extraction Method: 3570

ESS Laboratory Work Order: F210005
ESS Laboratory Sample ID: F210005-02
Sample Matrix: Soil
Units: mg/Kg dry
Analyst: NXL
Prepared: 4/7/21 6:50

Saturated Hydrocarbons by GC/FID

| <u>Analyte</u> | <u>Results (RL)</u> | <u>EDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|---------------------|---------------------|------------|---------------|--------------|-----------|----------------|-----------------|-----------------|--------------|
| C-35 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-36 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-37 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-38 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-39 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| C-40 | ND (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |
| TPH (C8-C40) | 36800 (4.63) | 2.31 | 8015 Mod | | 5 | NXL | 04/08/21 6:14 | F1D0001 | FD10702 |

| | | | |
|-------------------------------|------------------|------------------|---------------|
| | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
| <i>Surrogate: o-Terphenyl</i> | <i>89 %</i> | | <i>50-120</i> |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
 Client Project ID: 131 Morse St. Foxborough MA

ESS Laboratory Work Order: F210005

Quality Control Data

Saturated Hydrocarbons by GC/FID

Batch FD10701 - 3570

Blank

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|------------------------------------|--------|------|--------|-------------|---------------|------|-------------|-----|-----------|-----------|
| C-8 | ND | 2.00 | ug/Net | | | | | | | |
| C-9 | 1.43 | 2.00 | ug/Net | | | | | | | J |
| C-10 | ND | 2.00 | ug/Net | | | | | | | |
| C-11 | ND | 2.00 | ug/Net | | | | | | | |
| C-12 | ND | 2.00 | ug/Net | | | | | | | |
| C-13 | ND | 2.00 | ug/Net | | | | | | | |
| 2,6,10-trimethyldodecane (1380) | ND | 2.00 | ug/Net | | | | | | | |
| C-14 | ND | 2.00 | ug/Net | | | | | | | |
| 2,6,10-trimethyltridecane (1470) | ND | 2.00 | ug/Net | | | | | | | |
| C-15 | ND | 2.00 | ug/Net | | | | | | | |
| C-16 | ND | 2.00 | ug/Net | | | | | | | |
| 2,6,10-trimethylpentadecane (1650) | ND | 2.00 | ug/Net | | | | | | | |
| C-17 | ND | 2.00 | ug/Net | | | | | | | |
| Pristane | ND | 2.00 | ug/Net | | | | | | | |
| C-18 | ND | 2.00 | ug/Net | | | | | | | |
| Phytane | ND | 2.00 | ug/Net | | | | | | | |
| C-19 | ND | 2.00 | ug/Net | | | | | | | |
| C-20 | ND | 2.00 | ug/Net | | | | | | | |
| C-21 | ND | 2.00 | ug/Net | | | | | | | |
| C-22 | ND | 2.00 | ug/Net | | | | | | | |
| C-23 | ND | 2.00 | ug/Net | | | | | | | |
| C-24 | ND | 2.00 | ug/Net | | | | | | | |
| C-25 | ND | 2.00 | ug/Net | | | | | | | |
| C-26 | ND | 2.00 | ug/Net | | | | | | | |
| C-27 | ND | 2.00 | ug/Net | | | | | | | |
| C-28 | ND | 2.00 | ug/Net | | | | | | | |
| C-29 | ND | 2.00 | ug/Net | | | | | | | |
| C-30 | ND | 2.00 | ug/Net | | | | | | | |
| C-31 | ND | 2.00 | ug/Net | | | | | | | |
| C-32 | ND | 2.00 | ug/Net | | | | | | | |
| C-33 | ND | 2.00 | ug/Net | | | | | | | |
| C-34 | ND | 2.00 | ug/Net | | | | | | | |
| C-35 | ND | 2.00 | ug/Net | | | | | | | |
| C-36 | ND | 2.00 | ug/Net | | | | | | | |
| C-37 | ND | 2.00 | ug/Net | | | | | | | |
| C-38 | ND | 2.00 | ug/Net | | | | | | | |
| C-39 | ND | 2.00 | ug/Net | | | | | | | |
| C-40 | ND | 2.00 | ug/Net | | | | | | | |
| TPH (C8-C40) | ND | 2.00 | ug/Net | | | | | | | |
| Surrogate: o-Terphenyl | 44.7 | | ug/Net | 50.00 | | 89 | 50-120 | | | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
 Client Project ID: 131 Morse St. Foxborough MA

ESS Laboratory Work Order: F210005

Quality Control Data

Saturated Hydrocarbons by GC/FID

Batch FD10701 - 3570

LCS

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|------------------------|--------|------|--------|-------------|---------------|------|-------------|-----|-----------|-----------|
| C-8 | 39.1 | 2.00 | ug/Net | 50.00 | | 78 | 60-130 | | | |
| C-9 | 38.8 | 2.00 | ug/Net | 50.00 | | 78 | 60-130 | | | |
| C-10 | 40.0 | 2.00 | ug/Net | 50.00 | | 80 | 60-130 | | | |
| C-11 | 41.2 | 2.00 | ug/Net | 50.00 | | 82 | 60-130 | | | |
| C-12 | 42.0 | 2.00 | ug/Net | 50.00 | | 84 | 60-130 | | | |
| C-13 | 40.9 | 2.00 | ug/Net | 50.00 | | 82 | 60-130 | | | |
| C-14 | 40.9 | 2.00 | ug/Net | 50.00 | | 82 | 60-130 | | | |
| C-15 | 42.4 | 2.00 | ug/Net | 50.00 | | 85 | 60-130 | | | |
| C-16 | 40.4 | 2.00 | ug/Net | 50.00 | | 81 | 60-130 | | | |
| C-17 | 40.4 | 2.00 | ug/Net | 50.00 | | 81 | 60-130 | | | |
| Pristane | 39.9 | 2.00 | ug/Net | 50.00 | | 80 | 60-130 | | | |
| C-18 | 39.0 | 2.00 | ug/Net | 50.00 | | 78 | 60-130 | | | |
| Phytane | 40.7 | 2.00 | ug/Net | 50.00 | | 81 | 60-130 | | | |
| C-19 | 39.8 | 2.00 | ug/Net | 50.00 | | 80 | 60-130 | | | |
| C-20 | 39.0 | 2.00 | ug/Net | 50.00 | | 78 | 60-130 | | | |
| C-21 | 39.4 | 2.00 | ug/Net | 50.00 | | 79 | 60-130 | | | |
| C-22 | 37.9 | 2.00 | ug/Net | 50.00 | | 76 | 60-130 | | | |
| C-23 | 38.8 | 2.00 | ug/Net | 50.00 | | 78 | 60-130 | | | |
| C-24 | 38.9 | 2.00 | ug/Net | 50.00 | | 78 | 60-130 | | | |
| C-25 | 40.9 | 2.00 | ug/Net | 50.00 | | 82 | 60-130 | | | |
| C-26 | 38.8 | 2.00 | ug/Net | 50.00 | | 78 | 60-130 | | | |
| C-27 | 38.7 | 2.00 | ug/Net | 50.00 | | 77 | 60-130 | | | |
| C-28 | 36.8 | 2.00 | ug/Net | 50.00 | | 74 | 60-130 | | | |
| C-29 | 38.3 | 2.00 | ug/Net | 50.00 | | 77 | 60-130 | | | |
| C-30 | 38.2 | 2.00 | ug/Net | 50.00 | | 76 | 60-130 | | | |
| C-31 | 38.1 | 2.00 | ug/Net | 50.00 | | 76 | 60-130 | | | |
| C-32 | 38.1 | 2.00 | ug/Net | 50.00 | | 76 | 60-130 | | | |
| C-33 | 38.0 | 2.00 | ug/Net | 50.00 | | 76 | 60-130 | | | |
| C-34 | 38.0 | 2.00 | ug/Net | 50.00 | | 76 | 60-130 | | | |
| C-35 | 38.1 | 2.00 | ug/Net | 50.00 | | 76 | 60-130 | | | |
| C-36 | 38.2 | 2.00 | ug/Net | 50.00 | | 76 | 60-130 | | | |
| C-37 | 37.7 | 2.00 | ug/Net | 50.00 | | 75 | 60-130 | | | |
| C-38 | 38.8 | 2.00 | ug/Net | 50.00 | | 78 | 60-130 | | | |
| C-39 | 37.5 | 2.00 | ug/Net | 50.00 | | 75 | 60-130 | | | |
| C-40 | 39.2 | 2.00 | ug/Net | 50.00 | | 78 | 60-130 | | | |
| Surrogate: o-Terphenyl | 42.9 | | ug/Net | 50.00 | | 86 | 50-120 | | | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
 Client Project ID: 131 Morse St. Foxborough MA

ESS Laboratory Work Order: F210005

Quality Control Data

Saturated Hydrocarbons by GC/FID

Batch FD10702 - 3570

Blank

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|------------------------------------|--------|-------|-----------|-------------|---------------|------|-------------|-----|-----------|-----------|
| C-8 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-9 | 0.286 | 0.400 | mg/Kg wet | | | | | | | J |
| C-10 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-11 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-12 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-13 | ND | 0.400 | mg/Kg wet | | | | | | | |
| 2,6,10-trimethyldodecane (1380) | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-14 | ND | 0.400 | mg/Kg wet | | | | | | | |
| 2,6,10-trimethyltridecane (1470) | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-15 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-16 | ND | 0.400 | mg/Kg wet | | | | | | | |
| 2,6,10-trimethylpentadecane (1650) | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-17 | ND | 0.400 | mg/Kg wet | | | | | | | |
| Pristane | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-18 | ND | 0.400 | mg/Kg wet | | | | | | | |
| Phytane | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-19 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-20 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-21 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-22 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-23 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-24 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-25 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-26 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-27 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-28 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-29 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-30 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-31 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-32 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-33 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-34 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-35 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-36 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-37 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-38 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-39 | ND | 0.400 | mg/Kg wet | | | | | | | |
| C-40 | ND | 0.400 | mg/Kg wet | | | | | | | |
| TPH (C8-C40) | ND | 0.400 | mg/Kg wet | | | | | | | |
| Surrogate: o-Terphenyl | 8.94 | | mg/Kg wet | 10.00 | | 89 | 50-120 | | | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: 131 Morse St. Foxborough MA

ESS Laboratory Work Order: F210005

Quality Control Data

Saturated Hydrocarbons by GC/FID

Batch FD10702 - 3570

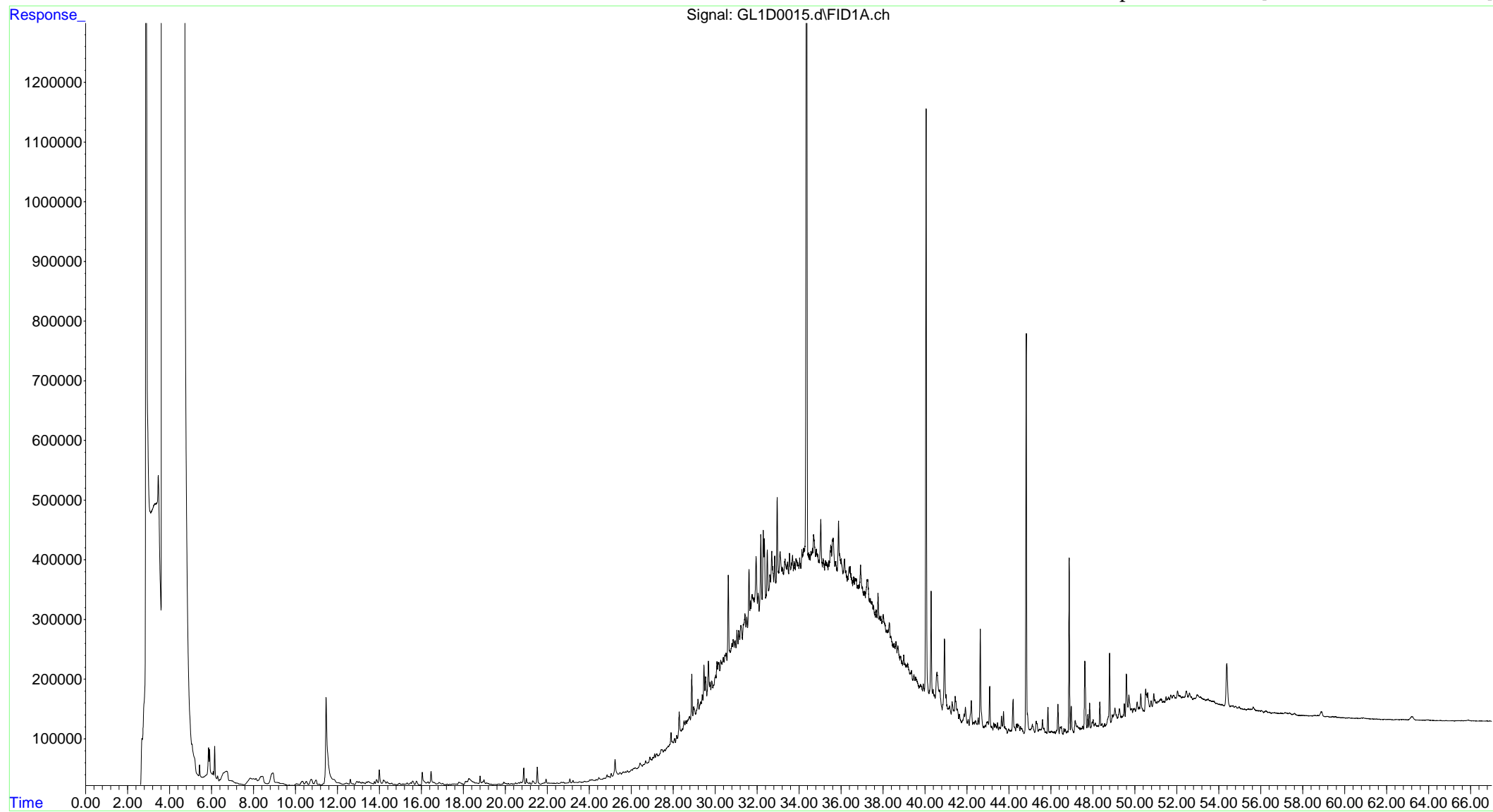
LCS

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|------------------------|--------|-------|-----------|-------------|---------------|------|-------------|-----|-----------|-----------|
| C-8 | 7.82 | 0.400 | mg/Kg wet | 10.00 | | 78 | 60-130 | | | |
| C-9 | 7.76 | 0.400 | mg/Kg wet | 10.00 | | 78 | 60-130 | | | |
| C-10 | 8.01 | 0.400 | mg/Kg wet | 10.00 | | 80 | 60-130 | | | |
| C-11 | 8.23 | 0.400 | mg/Kg wet | 10.00 | | 82 | 60-130 | | | |
| C-12 | 8.41 | 0.400 | mg/Kg wet | 10.00 | | 84 | 60-130 | | | |
| C-13 | 8.18 | 0.400 | mg/Kg wet | 10.00 | | 82 | 60-130 | | | |
| C-14 | 8.18 | 0.400 | mg/Kg wet | 10.00 | | 82 | 60-130 | | | |
| C-15 | 8.47 | 0.400 | mg/Kg wet | 10.00 | | 85 | 60-130 | | | |
| C-16 | 8.09 | 0.400 | mg/Kg wet | 10.00 | | 81 | 60-130 | | | |
| C-17 | 8.07 | 0.400 | mg/Kg wet | 10.00 | | 81 | 60-130 | | | |
| Pristane | 7.97 | 0.400 | mg/Kg wet | 10.00 | | 80 | 60-130 | | | |
| C-18 | 7.79 | 0.400 | mg/Kg wet | 10.00 | | 78 | 60-130 | | | |
| Phytane | 8.15 | 0.400 | mg/Kg wet | 10.00 | | 81 | 60-130 | | | |
| C-19 | 7.95 | 0.400 | mg/Kg wet | 10.00 | | 80 | 60-130 | | | |
| C-20 | 7.80 | 0.400 | mg/Kg wet | 10.00 | | 78 | 60-130 | | | |
| C-21 | 7.89 | 0.400 | mg/Kg wet | 10.00 | | 79 | 60-130 | | | |
| C-22 | 7.58 | 0.400 | mg/Kg wet | 10.00 | | 76 | 60-130 | | | |
| C-23 | 7.77 | 0.400 | mg/Kg wet | 10.00 | | 78 | 60-130 | | | |
| C-24 | 7.78 | 0.400 | mg/Kg wet | 10.00 | | 78 | 60-130 | | | |
| C-25 | 8.18 | 0.400 | mg/Kg wet | 10.00 | | 82 | 60-130 | | | |
| C-26 | 7.75 | 0.400 | mg/Kg wet | 10.00 | | 78 | 60-130 | | | |
| C-27 | 7.75 | 0.400 | mg/Kg wet | 10.00 | | 77 | 60-130 | | | |
| C-28 | 7.36 | 0.400 | mg/Kg wet | 10.00 | | 74 | 60-130 | | | |
| C-29 | 7.67 | 0.400 | mg/Kg wet | 10.00 | | 77 | 60-130 | | | |
| C-30 | 7.64 | 0.400 | mg/Kg wet | 10.00 | | 76 | 60-130 | | | |
| C-31 | 7.63 | 0.400 | mg/Kg wet | 10.00 | | 76 | 60-130 | | | |
| C-32 | 7.62 | 0.400 | mg/Kg wet | 10.00 | | 76 | 60-130 | | | |
| C-33 | 7.60 | 0.400 | mg/Kg wet | 10.00 | | 76 | 60-130 | | | |
| C-34 | 7.61 | 0.400 | mg/Kg wet | 10.00 | | 76 | 60-130 | | | |
| C-35 | 7.63 | 0.400 | mg/Kg wet | 10.00 | | 76 | 60-130 | | | |
| C-36 | 7.65 | 0.400 | mg/Kg wet | 10.00 | | 76 | 60-130 | | | |
| C-37 | 7.55 | 0.400 | mg/Kg wet | 10.00 | | 75 | 60-130 | | | |
| C-38 | 7.76 | 0.400 | mg/Kg wet | 10.00 | | 78 | 60-130 | | | |
| C-39 | 7.49 | 0.400 | mg/Kg wet | 10.00 | | 75 | 60-130 | | | |
| C-40 | 7.85 | 0.400 | mg/Kg wet | 10.00 | | 78 | 60-130 | | | |
| Surrogate: o-Terphenyl | 8.57 | | mg/Kg wet | 10.00 | | 86 | 50-120 | | | |

GC-FID Chromatograms

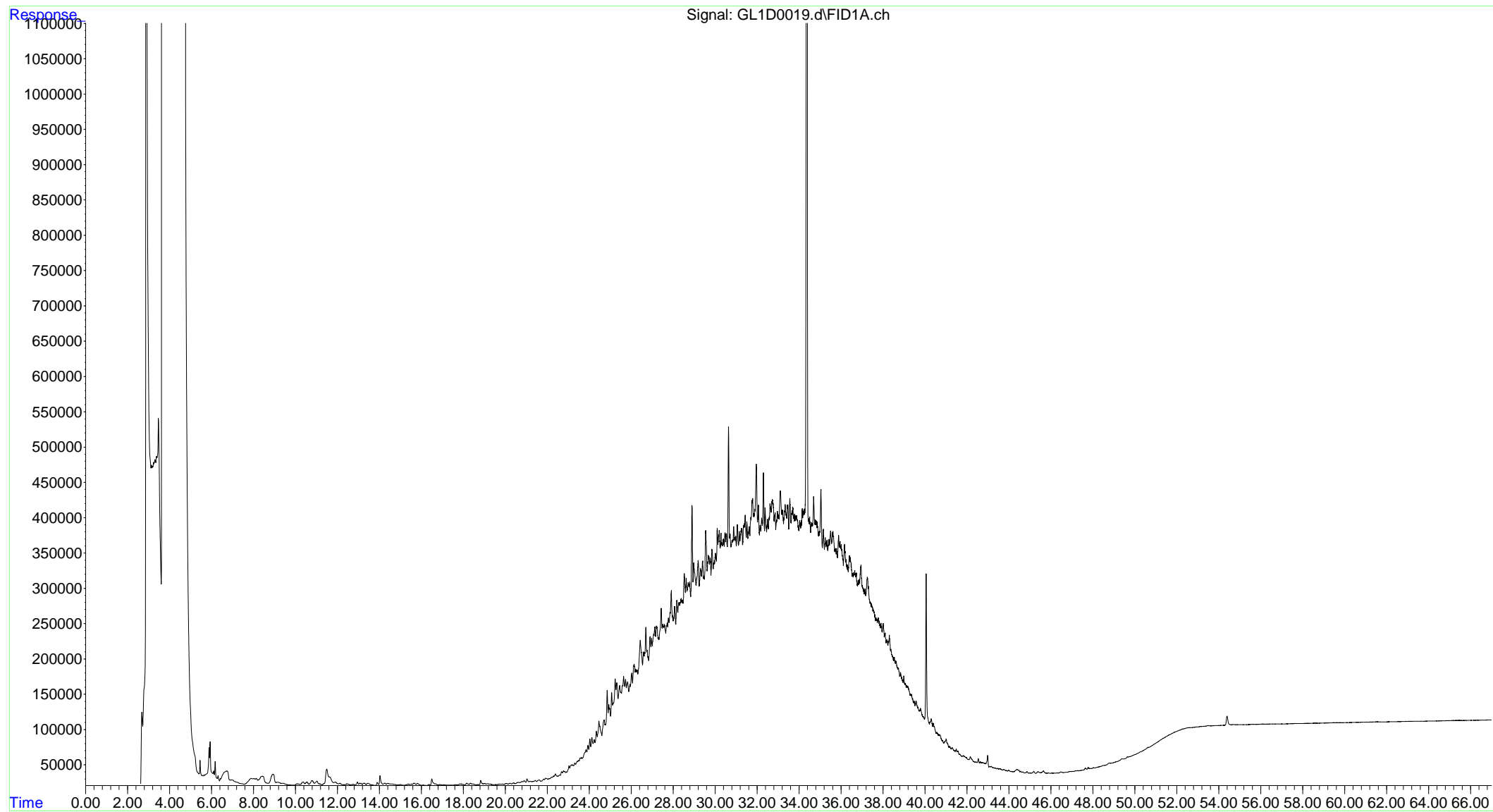
File :Q:\SVOA\GC12_GL\Data\GL0421\040721\GL1D0015.d
Operator : NXL
Acquired : 8 Apr 2021 9:02 am using AcqMethod GC12-DATA-ACQUISITION-4.M
Instrument : SVOA-GC12
Sample Name: F210005-01
Misc Info : 5
Vial Number: 25

emulsified product 4/2/21 [ESS Lab ID: F210005-01]



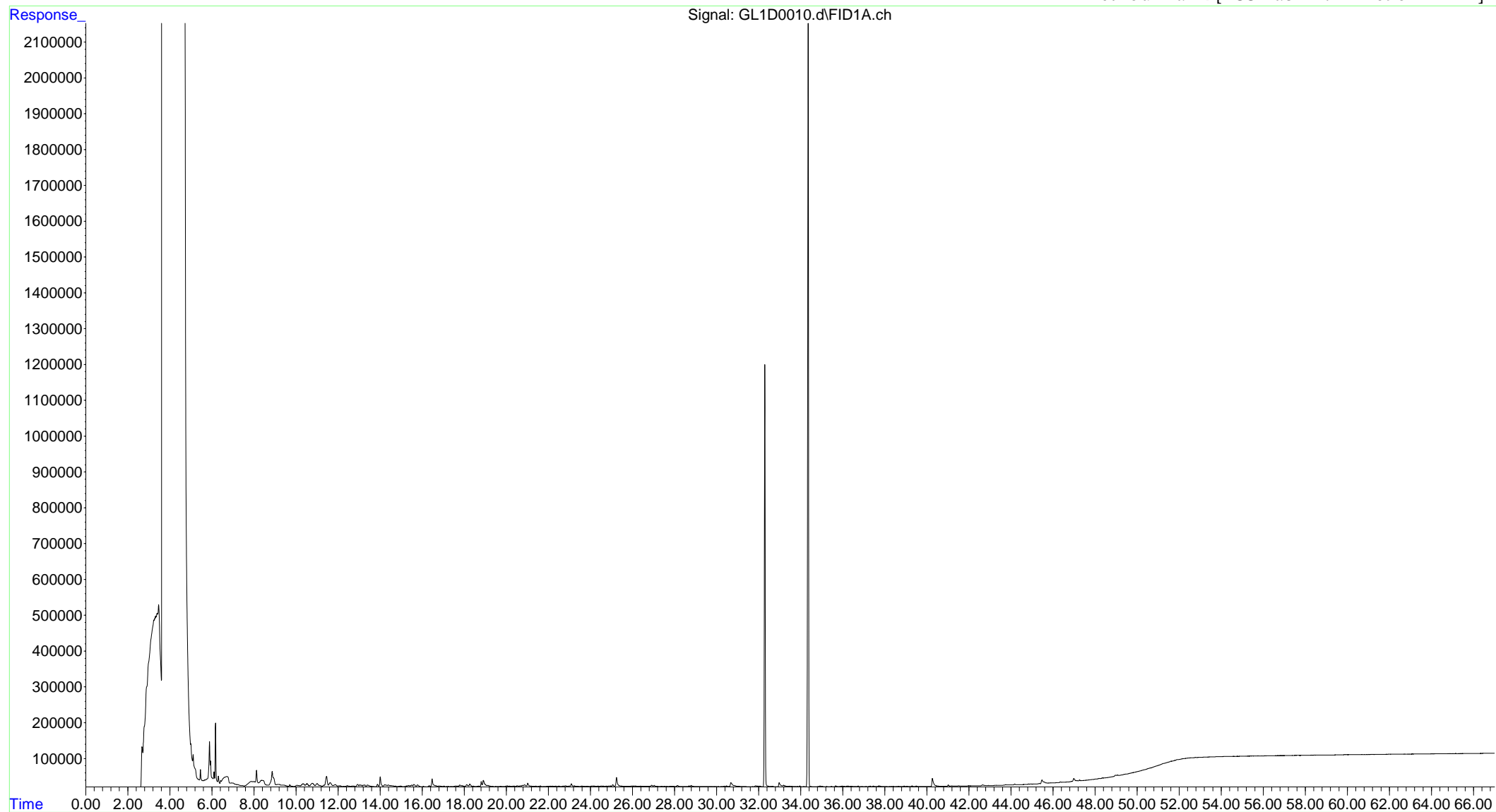
File :Q:\SVOA\GC12_GL\Data\GL0421\040721\GL1D0019.d
Operator : NXL
Acquired : 8 Apr 2021 2:22 pm using AcqMethod GC12-DATA-ACQUISITION-4.M
Instrument : SVOA-GC12
Sample Name: F210005-02
Misc Info : 20
Vial Number: 24

PX-5 [ESS Lab ID: F210005-02]



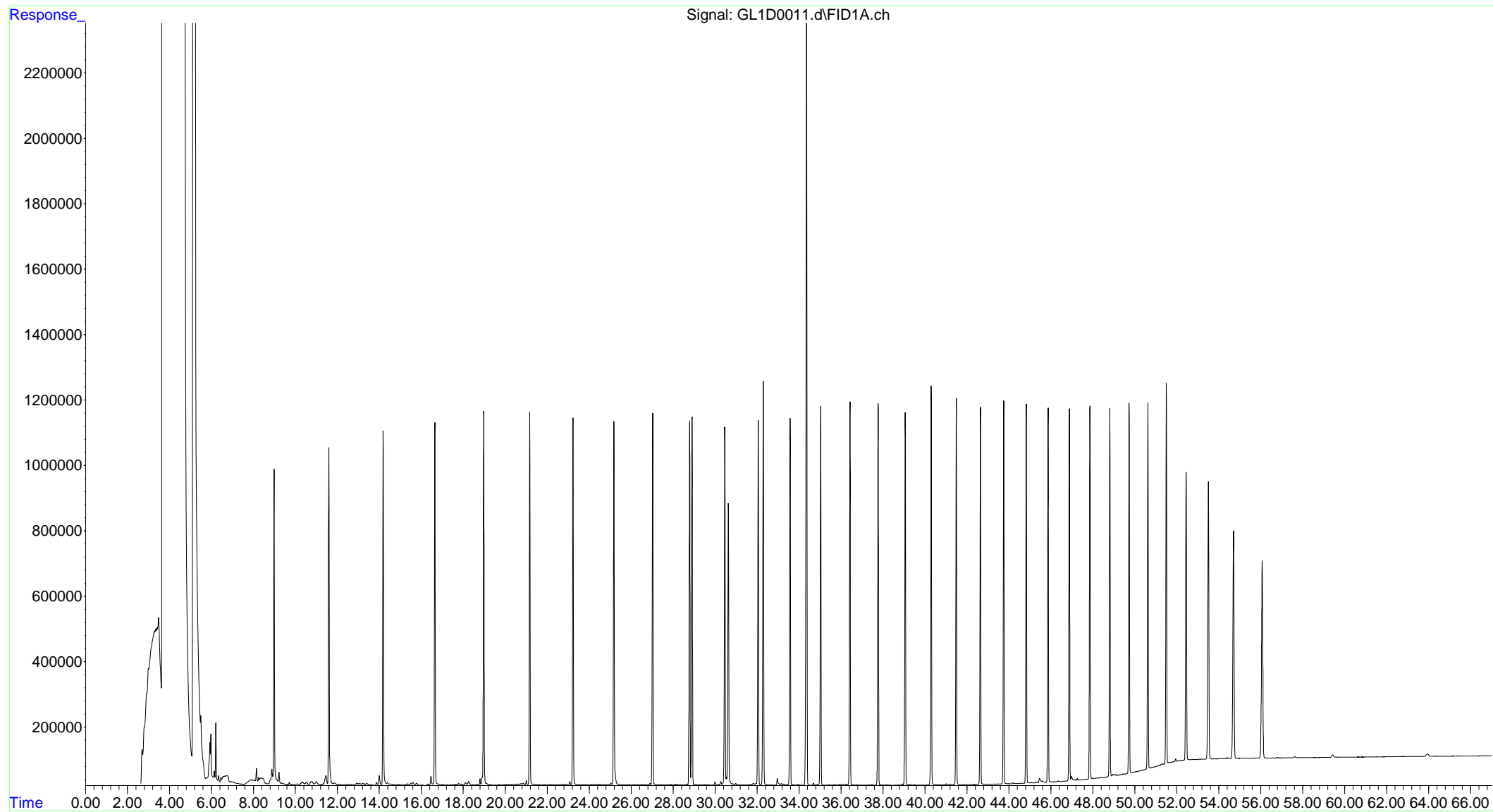
File :Q:\SVOA\GC12_GL\Data\GL0421\040721\GL1D0010.d
Operator : NXL
Acquired : 8 Apr 2021 2:15 am using AcqMethod GC12-DATA-ACQUISITION-4.M
Instrument : SVOA-GC12
Sample Name: FD10701-BLK1
Misc Info :
Vial Number: 7

Method Blank [ESS Lab ID: FD10701-BLK1]



File :Q:\SVOA\GC12_GL\Data\GL0421\040721\GL1D0011.d
Operator : NXL
Acquired : 8 Apr 2021 3:35 am using AcqMethod GC12-DATA-ACQUISITION-4.M
Instrument : SVOA-GC12
Sample Name: FD10701-BS1
Misc Info :
Vial Number: 8

Blank Spike [ESS Lab ID: FD10701-BS1]



Reference Chromatograms

Data Path : Q:\SVOA\GC12_GL\Data\GL0421\040721\
 Data File : GL1D0006.d
 Signal(s) : FID1A.ch
 Acq On : 7 Apr 2021 8:54 pm
 Operator : NXL
 Sample : F1D0001-CCV1
 Misc :
 InstName : SVOA-GC12
 ALS Vial : 4 Sample Multiplier: 1

Integration File: events.e
 Quant Time: Apr 09 07:40:08 2021
 Quant Method : Q:\SVOA\GC12_GL\Data\GL0421\040721\SHC12AA.M
 Quant Title : n-C8 - n-C40 normal alkanes w/ isoprenoids
 QLast Update : Tue Jan 05 14:18:19 2021
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1.0
 Signal Phase : Rtx-5
 Signal Info : 0.32

| Compound | R.T. | Response | Conc Units |
|-----------------------------|----------------|------------|---------------|
| ----- | | | |
| Internal Standards | | | |
| 1) I 5a-Androstane | 34.365 | 63410599 | 50.000 µg/mLm |
| System Monitoring Compounds | | | |
| 2) S o-Terphenyl | 32.309 | 68926394 | 47.756 µg/mLm |
| Spiked Amount 25.000 | Range 50 - 120 | Recovery = | 191.02%# |
| Target Compounds | | | |
| 3) C-8 | 9.003 | 28255493 | 26.344 µg/mLm |
| 4) C-9 | 11.603 | 29697785 | 24.231 µg/mLm |
| 5) C-10 | 14.188 | 30161417 | 24.866 µg/mLm |
| 6) C-11 | 16.652 | 29862943 | 25.246 µg/mLm |
| 7) C-12 | 18.980 | 30476376 | 25.288 µg/mLm |
| 8) J1 C-13 | 21.171 | 30360434 | 25.183 µg/mLm |
| 10) J1 C-14 | 23.235 | 30722742 | 24.936 µg/mLm |
| 12) C-15 | 25.186 | 30934242 | 24.746 µg/mLm |
| 13) J1 C-16 | 27.038 | 31001433 | 24.416 µg/mLm |
| 15) C-17 | 28.796 | 30623971 | 24.339 µg/mLm |
| 16) Pristane | 28.909 | 31755235 | 24.445 µg/mLm |
| 17) C-18 | 30.466 | 31248258 | 24.168 µg/mLm |
| 18) Phytane | 30.636 | 29001650 | 25.037 µg/mLm |
| 19) C-19 | 32.063 | 31541270 | 24.579 µg/mLm |
| 20) C-20 | 33.584 | 31378534 | 24.109 µg/mLm |
| 21) C-21 | 35.042 | 31333430 | 24.096 µg/mLm |
| 22) C-22 | 36.438 | 31873079 | 23.637 µg/mLm |
| 23) C-23 | 37.778 | 31448328 | 23.811 µg/mLm |
| 24) C-24 | 39.065 | 28697443 | 21.872 µg/mLm |
| 25) C-25 | 40.305 | 31168511 | 23.917 µg/mLm |
| 26) C-26 | 41.498 | 32674514 | 24.653 µg/mLm |
| 27) C-27 | 42.651 | 30921580 | 23.812 µg/mLm |
| 28) C-28 | 43.764 | 31443895 | 22.244 µg/mLm |
| 29) C-29 | 44.839 | 31150724 | 23.282 µg/mLm |
| 30) C-30 | 45.881 | 31364964 | 23.090 µg/mLm |
| 31) C-31 | 46.885 | 30309683 | 22.693 µg/mLm |
| 32) C-32 | 47.867 | 31790046 | 24.226 µg/mLm |
| 33) C-33 | 48.813 | 30257686 | 23.239 µg/mLm |
| 34) C-34 | 49.734 | 30059737 | 22.589 µg/mLm |
| 35) C-35 | 50.631 | 29967512 | 23.275 µg/mLm |
| 36) C-36 | 51.508 | 31675095 | 22.159 µg/mLm |
| 37) C-37 | 52.456 | 29967304 | 23.303 µg/mLm |
| 38) C-38 | 53.517 | 30293968 | 22.957 µg/mLm |
| 39) C-39 | 54.721 | 31101664 | 24.228 µg/mLm |
| 40) C-40 | 56.086 | 29051918 | 24.202 µg/mLm |

SemiQuant Compounds - Not Calibrated on this Instrument

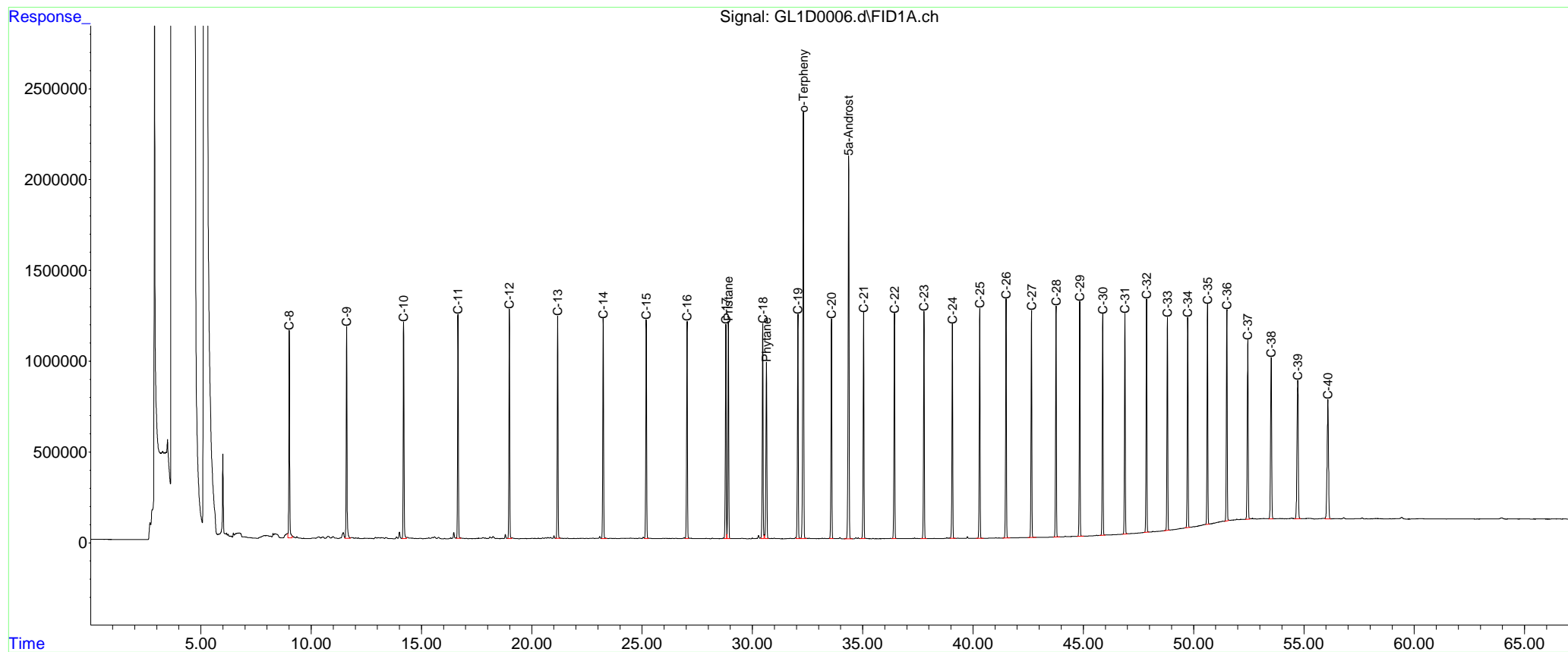
(f)=RT Delta > 1/2 Window

(m)=manual int.

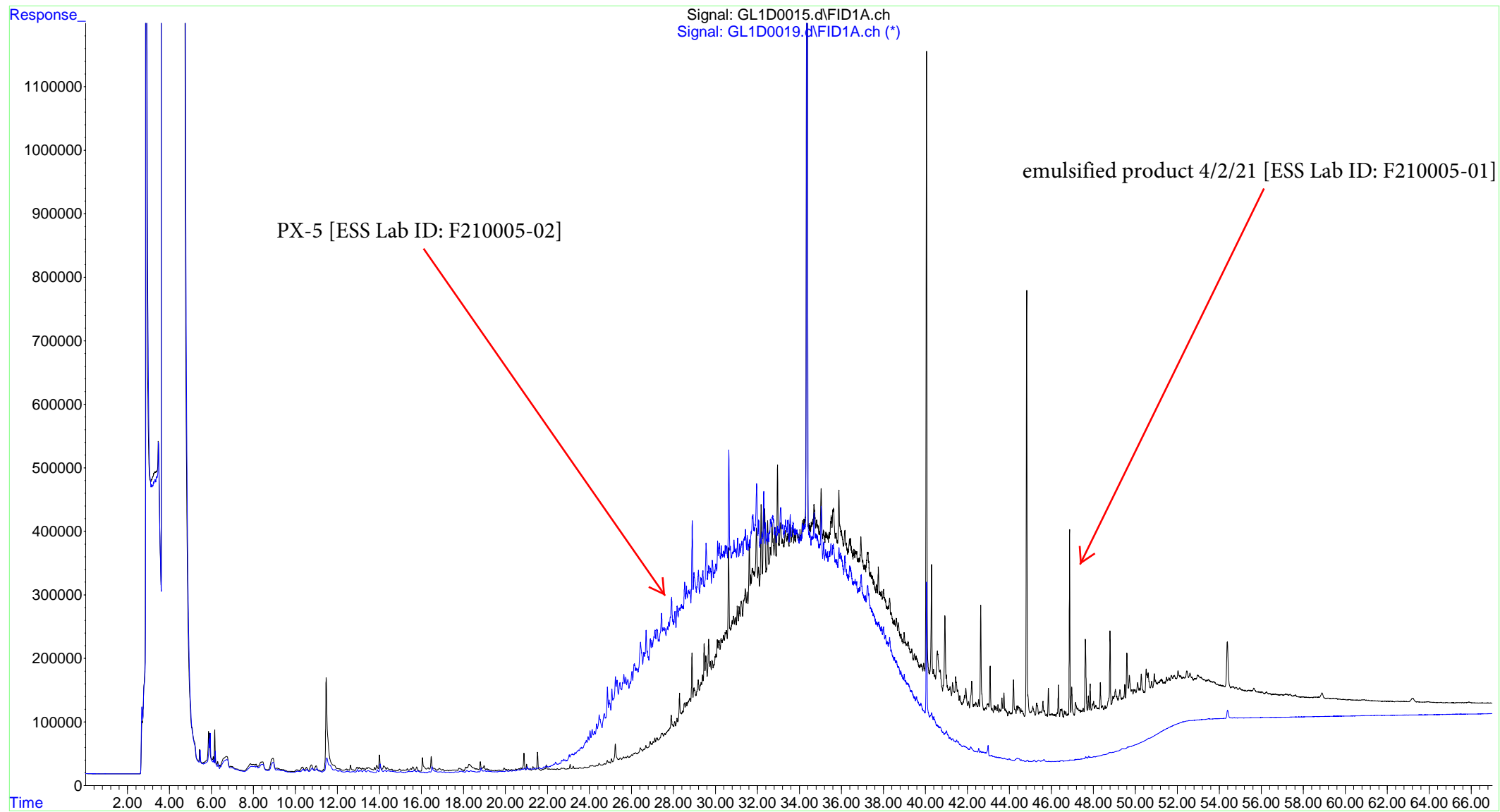
Data Path : Q:\SVOA\GC12_GL\Data\GL0421\040721\
 Data File : GL1D0006.d
 Signal(s) : FID1A.ch
 Acq On : 7 Apr 2021 8:54 pm
 Operator : NXL
 Sample : F1D0001-CCV1
 Misc :
 InstName : SVOA-GC12
 ALS Vial : 4 Sample Multiplier: 1

Integration File: events.e
 Quant Time: Apr 09 07:40:08 2021
 Quant Method : Q:\SVOA\GC12_GL\Data\GL0421\040721\SHC12AA.M
 Quant Title : n-C8 - n-C40 normal alkanes w/ isoprenoids
 QLast Update : Tue Jan 05 14:18:19 2021
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1.0
 Signal Phase : Rtx-5
 Signal Info : 0.32



File :Q:\SVOA\GC12_GL\Data\GL0421\040721\GL1D0015.d
Operator : NXL
Acquired : 8 Apr 2021 9:02 am using AcqMethod GC12-DATA-ACQUISITION-4.M
Instrument : SVOA-GC12
Sample Name: F210005-01
Misc Info : 5
Vial Number: 25





CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: 131 Morse St. Foxborough MA

ESS Laboratory Work Order: F210005

Notes and Definitions

- U Analyte included in the analysis, but not detected
- J Reported between MDL and MRL
- D Diluted.
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: 131 Morse St. Foxborough MA

ESS Laboratory Work Order: F210005

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
<http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002
<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tighe and Bond

ESS Project ID: F210005

Date Received: 4/2/2021

Shipped/Delivered Via: Courier

Project Due Date: 4/9/2021

Days for Project: 5

- 1. Air bill manifest present? No
Air No.: NA
- 2. Were custody seals present? No
- 3. Is radiation count <100 CPM? Yes
- 4. Is a Cooler Present? Yes
Temp: 3.8 Iced with: ice
- 5. Was COC signed and dated by client? Yes

- 6. Does COC match bottles? Yes
- 7. Is COC complete and correct? Yes
- 8. Were samples received intact? Yes
- 9. Were labs informed about short holds & rushes? Yes / No NA
- 10. Were any analyses received outside of hold time? Yes No

11. Any Subcontracting needed? Yes / No No
ESS Sample IDs: _____
Analysis: _____
TAT: _____

12. Were VOAs received? Yes No
a. Air bubbles in aqueous VOAs? Yes / No
b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved? Yes No
a. If metals preserved upon receipt: Date: _____ Time: _____ By: _____
b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes No
a. Was there a need to contact the client? Yes No
Who was contacted? _____ Date: _____ Time: _____ By: _____

| Sample Number | Container ID | Proper Container | Air Bubbles Present | Sufficient Volume | Container Type | Preservative | Record pH (Cyanide and 608.3 Pesticides) |
|---------------|--------------|------------------|---------------------|-------------------|----------------|--------------|--|
| 1 | 1 | Yes | N/A | Yes | 8 oz. Jar | NP | |

2nd Review

All containers scanned into storage/lab
Are barcode labels on correct containers?
Are all necessary stickers attached?

Initials: AK
4/2/21 Yes / No
4/2/21 Yes / No

Completed By: Taylor D. [Signature] Date & Time: 4/2/21 18:30
Reviewed By: Amber [Signature] Date & Time: 4/2/21 19:31
Delivered By: Amber [Signature] Date & Time: 4/2/21 19:31



CERTIFICATE OF ANALYSIS

Matt Abraham
Tighe & Bond
120 Front Street, Suite 7
Worcester, MA 01608

RE: MEC - 131 Morse St Foxborough MA (N-5067-084)
ESS Laboratory Work Order Number: 22B0195

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 4:03 pm, Feb 18, 2022

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 22B0195

SAMPLE RECEIPT

The following samples were received on February 07, 2022 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Question I: All samples for EPH were analyzed for a subset of the required MCP list per the client's request.

Revision 1 February 18, 2022: This report has been revised to include corrected Sample ID.

| Lab Number | Sample Name | Matrix | Analysis |
|------------|-------------|--------|--------------------|
| 22B0195-01 | Boom Sample | Solid | EPH8270, MADEP-EPH |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 22B0195

PROJECT NARRATIVE

MADEP-EPH Extractable Petroleum Hydrocarbons

22B0195-01 [Elevated Method Reporting Limits due to sample matrix \(EL\).](#)

22B0195-01 [Estimated value. Sample hold times were exceeded \(H\).](#)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 22B0195

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015C - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH
- MADEP 18-2.1 - VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 22B0195

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **22B0195-01**

Matrices: () Ground Water/Surface Water () Soil/Sediment () Drinking Water () Air (x) Other: Solid

CAM Protocol (check all that apply below):

- | | | | | | |
|------------------------------|-------------------------------|---|--------------------------------|---|------------------------------------|
| () 8260 VOC CAM II A | () 7470/7471 Hg CAM III B | () MassDEP VPH (GC/PID/FID) CAM IV A | () 8082 PCB CAM V A | () 9014 Total Cyanide/PAC CAM VI A | () 6860 Perchlorate CAM VIII B |
| () 8270 SVOC CAM II B | () 7010 Metals CAM III C | () MassDEP VPH (GC/MS) CAM IV C | () 8081 Pesticides CAM V B | () 7196 Hex Cr CAM VI B | () MassDEP APH CAM IX A |
| () 6010 Metals CAM III A | () 6020 Metals CAM III D | (x) MassDEP EPH CAM IV B | () 8151 Herbicides CAM V C | () Explosives CAM VIII A | () TO-15 VOC CAM IX B |

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

- A Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times? Yes () No (X)
- B Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed? Yes (X) No ()
- C Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? Yes (X) No ()
- D Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? Yes (X) No ()
- E VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). Yes (X) No ()
b. APH and TO-15 Methods only: Was the complete analyte list reported for each method? Yes () No ()
- F Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)? Yes (X) No ()

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

- G Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? Yes () No (X)*
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.
- H Were all QC performance standards specified in the CAM protocol(s) achieved? Yes (X) No ()*
- I Were results reported for the complete analyte list specified in the selected CAM protocol(s)? Yes () No (X)*

**All negative responses must be addressed in an attached laboratory narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Printed Name: Laurel Stoddard

Date: February 15, 2022

Position: Laboratory Director



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: MEC - 131 Morse St Foxborough MA
Client Sample ID: Boom Sample
Date Sampled: 01/20/22 11:15
Percent Solids: N/A
Initial Volume: 5.26
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 22B0195
ESS Laboratory Sample ID: 22B0195-01
Sample Matrix: Solid
Units: mg/kg wet

Prepared: 2/7/22 19:30

MADEP-EPH Extractable Petroleum Hydrocarbons

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|-----------------|--------------|
| C9-C18 Aliphatics1 | ND (71.3) | | MADEP-EPH | | 1 | MJV | 02/08/22 22:55 | D2B0157 | DB20746 |
| C19-C36 Aliphatics1 | 300 (71.3) | | MADEP-EPH | | 1 | MJV | 02/08/22 22:55 | D2B0157 | DB20746 |
| C11-C22 Unadjusted Aromatics1 | ND (71.3) | | EPH8270 | | 1 | MJV | 02/09/22 2:30 | D2B0164 | DB20746 |
| C11-C22 Aromatics1,2 | ND (71.3) | | EPH8270 | | | MJV | 02/09/22 2:30 | | [CALC] |

| | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|--------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1-Chlorooctadecane</i> | 63 % | | 40-140 |
| <i>Surrogate: 2-Bromonaphthalene</i> | 101 % | | 40-140 |
| <i>Surrogate: 2-Fluorobiphenyl</i> | 92 % | | 40-140 |
| <i>Surrogate: O-Terphenyl</i> | 68 % | | 40-140 |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 22B0195

Quality Control Data

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

MADEP-EPH Extractable Petroleum Hydrocarbons

Batch DB20746 - 3546

Blank

| | | | | | | | | | | |
|---------------------|----|------|-----------|--|--|--|--|--|--|--|
| C19-C36 Aliphatics1 | ND | 15.0 | mg/kg wet | | | | | | | |
| C9-C18 Aliphatics1 | ND | 15.0 | mg/kg wet | | | | | | | |

| | | | | | | | | | | |
|--------------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|
| <i>Surrogate: 1-Chlorooctadecane</i> | <i>1.66</i> | | mg/kg wet | <i>2.000</i> | | <i>83</i> | <i>40-140</i> | | | |
|--------------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|

Blank

| | | | | | | | | | | |
|-------------------------------|----|------|-----------|--|--|--|--|--|--|--|
| 2-Methylnaphthalene | ND | 0.20 | mg/kg wet | | | | | | | |
| Acenaphthene | ND | 0.40 | mg/kg wet | | | | | | | |
| Acenaphthylene | ND | 0.20 | mg/kg wet | | | | | | | |
| Anthracene | ND | 0.40 | mg/kg wet | | | | | | | |
| Benzo(a)anthracene | ND | 0.40 | mg/kg wet | | | | | | | |
| Benzo(a)pyrene | ND | 0.40 | mg/kg wet | | | | | | | |
| Benzo(b)fluoranthene | ND | 0.40 | mg/kg wet | | | | | | | |
| Benzo(g,h,i)perylene | ND | 0.40 | mg/kg wet | | | | | | | |
| Benzo(k)fluoranthene | ND | 0.40 | mg/kg wet | | | | | | | |
| C11-C22 Unadjusted Aromatics1 | ND | 15.0 | mg/kg wet | | | | | | | |
| Chrysene | ND | 0.40 | mg/kg wet | | | | | | | |
| Dibenzo(a,h)Anthracene | ND | 0.20 | mg/kg wet | | | | | | | |
| Fluoranthene | ND | 0.40 | mg/kg wet | | | | | | | |
| Fluorene | ND | 0.40 | mg/kg wet | | | | | | | |
| Indeno(1,2,3-cd)Pyrene | ND | 0.40 | mg/kg wet | | | | | | | |
| Naphthalene | ND | 0.40 | mg/kg wet | | | | | | | |
| Phenanthrene | ND | 0.40 | mg/kg wet | | | | | | | |
| Pyrene | ND | 0.40 | mg/kg wet | | | | | | | |

| | | | | | | | | | | |
|--------------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|
| <i>Surrogate: 2-Bromonaphthalene</i> | <i>1.76</i> | | mg/kg wet | <i>2.000</i> | | <i>88</i> | <i>40-140</i> | | | |
|--------------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|

| | | | | | | | | | | |
|------------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|
| <i>Surrogate: 2-Fluorobiphenyl</i> | <i>1.60</i> | | mg/kg wet | <i>2.000</i> | | <i>80</i> | <i>40-140</i> | | | |
|------------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|

| | | | | | | | | | | |
|-------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|
| <i>Surrogate: O-Terphenyl</i> | <i>1.51</i> | | mg/kg wet | <i>2.000</i> | | <i>76</i> | <i>40-140</i> | | | |
|-------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|

LCS

| | | | | | | | | | | |
|---------------------|------|------|-----------|-------|--|-----|--------|--|--|--|
| C19-C36 Aliphatics1 | 16.4 | 15.0 | mg/kg wet | 16.00 | | 103 | 40-140 | | | |
| C9-C18 Aliphatics1 | 8.9 | 15.0 | mg/kg wet | 12.00 | | 74 | 40-140 | | | |

| | | | | | | | | | | |
|--------------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|
| <i>Surrogate: 1-Chlorooctadecane</i> | <i>1.71</i> | | mg/kg wet | <i>2.000</i> | | <i>86</i> | <i>40-140</i> | | | |
|--------------------------------------|-------------|--|-----------|--------------|--|-----------|---------------|--|--|--|

LCS

| | | | | | | | | | | |
|-------------------------------|------|------|-----------|-------|--|----|--------|--|--|--|
| 2-Methylnaphthalene | 1.33 | 0.20 | mg/kg wet | 2.000 | | 67 | 40-140 | | | |
| Acenaphthene | 1.49 | 0.40 | mg/kg wet | 2.000 | | 75 | 40-140 | | | |
| Acenaphthylene | 1.42 | 0.20 | mg/kg wet | 2.000 | | 71 | 40-140 | | | |
| Anthracene | 1.62 | 0.40 | mg/kg wet | 2.000 | | 81 | 40-140 | | | |
| Benzo(a)anthracene | 1.45 | 0.40 | mg/kg wet | 2.000 | | 72 | 40-140 | | | |
| Benzo(a)pyrene | 1.48 | 0.40 | mg/kg wet | 2.000 | | 74 | 40-140 | | | |
| Benzo(b)fluoranthene | 1.61 | 0.40 | mg/kg wet | 2.000 | | 81 | 40-140 | | | |
| Benzo(g,h,i)perylene | 1.54 | 0.40 | mg/kg wet | 2.000 | | 77 | 40-140 | | | |
| Benzo(k)fluoranthene | 1.68 | 0.40 | mg/kg wet | 2.000 | | 84 | 40-140 | | | |
| C11-C22 Unadjusted Aromatics1 | 27.3 | 15.0 | mg/kg wet | 34.00 | | 80 | 40-140 | | | |
| Chrysene | 1.60 | 0.40 | mg/kg wet | 2.000 | | 80 | 40-140 | | | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 22B0195

Quality Control Data

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---|-------------|------|-----------|--------------|---------------|-----------|---------------|-----|-----------|-----------|
| MADEP-EPH Extractable Petroleum Hydrocarbons | | | | | | | | | | |
| Batch DB20746 - 3546 | | | | | | | | | | |
| Dibenzo(a,h)Anthracene | 1.48 | 0.20 | mg/kg wet | 2.000 | | 74 | 40-140 | | | |
| Fluoranthene | 1.53 | 0.40 | mg/kg wet | 2.000 | | 76 | 40-140 | | | |
| Fluorene | 1.55 | 0.40 | mg/kg wet | 2.000 | | 77 | 40-140 | | | |
| Indeno(1,2,3-cd)Pyrene | 1.59 | 0.40 | mg/kg wet | 2.000 | | 79 | 40-140 | | | |
| Naphthalene | 1.26 | 0.40 | mg/kg wet | 2.000 | | 63 | 40-140 | | | |
| Phenanthrene | 1.57 | 0.40 | mg/kg wet | 2.000 | | 78 | 40-140 | | | |
| Pyrene | 1.56 | 0.40 | mg/kg wet | 2.000 | | 78 | 40-140 | | | |
| <i>Surrogate: 2-Bromonaphthalene</i> | <i>1.85</i> | | mg/kg wet | <i>2.000</i> | | <i>92</i> | <i>40-140</i> | | | |
| <i>Surrogate: 2-Fluorobiphenyl</i> | <i>1.65</i> | | mg/kg wet | <i>2.000</i> | | <i>82</i> | <i>40-140</i> | | | |
| <i>Surrogate: O-Terphenyl</i> | <i>1.57</i> | | mg/kg wet | <i>2.000</i> | | <i>78</i> | <i>40-140</i> | | | |
| LCS | | | | | | | | | | |
| 2-Methylnaphthalene Breakthrough | 0.0 | | % | | | | 0-5 | | | |
| Naphthalene Breakthrough | 0.0 | | % | | | | 0-5 | | | |
| LCS Dup | | | | | | | | | | |
| C19-C36 Aliphatics1 | 15.9 | 15.0 | mg/kg wet | 16.00 | | 99 | 40-140 | 3 | 25 | |
| C9-C18 Aliphatics1 | 8.4 | 15.0 | mg/kg wet | 12.00 | | 70 | 40-140 | 6 | 25 | |
| <i>Surrogate: 1-Chlorooctadecane</i> | <i>1.63</i> | | mg/kg wet | <i>2.000</i> | | <i>82</i> | <i>40-140</i> | | | |
| LCS Dup | | | | | | | | | | |
| 2-Methylnaphthalene | 1.48 | 0.20 | mg/kg wet | 2.000 | | 74 | 40-140 | 10 | 30 | |
| Acenaphthene | 1.60 | 0.40 | mg/kg wet | 2.000 | | 80 | 40-140 | 7 | 30 | |
| Acenaphthylene | 1.54 | 0.20 | mg/kg wet | 2.000 | | 77 | 40-140 | 8 | 30 | |
| Anthracene | 1.74 | 0.40 | mg/kg wet | 2.000 | | 87 | 40-140 | 7 | 30 | |
| Benzo(a)anthracene | 1.75 | 0.40 | mg/kg wet | 2.000 | | 88 | 40-140 | 19 | 30 | |
| Benzo(a)pyrene | 1.70 | 0.40 | mg/kg wet | 2.000 | | 85 | 40-140 | 14 | 30 | |
| Benzo(b)fluoranthene | 1.86 | 0.40 | mg/kg wet | 2.000 | | 93 | 40-140 | 14 | 30 | |
| Benzo(g,h,i)perylene | 1.59 | 0.40 | mg/kg wet | 2.000 | | 80 | 40-140 | 3 | 30 | |
| Benzo(k)fluoranthene | 1.97 | 0.40 | mg/kg wet | 2.000 | | 98 | 40-140 | 16 | 30 | |
| C11-C22 Unadjusted Aromatics1 | 29.8 | 15.0 | mg/kg wet | 34.00 | | 88 | 40-140 | 9 | 25 | |
| Chrysene | 1.83 | 0.40 | mg/kg wet | 2.000 | | 92 | 40-140 | 13 | 30 | |
| Dibenzo(a,h)Anthracene | 1.51 | 0.20 | mg/kg wet | 2.000 | | 75 | 40-140 | 2 | 30 | |
| Fluoranthene | 1.73 | 0.40 | mg/kg wet | 2.000 | | 86 | 40-140 | 12 | 30 | |
| Fluorene | 1.71 | 0.40 | mg/kg wet | 2.000 | | 86 | 40-140 | 10 | 30 | |
| Indeno(1,2,3-cd)Pyrene | 1.63 | 0.40 | mg/kg wet | 2.000 | | 82 | 40-140 | 3 | 30 | |
| Naphthalene | 1.37 | 0.40 | mg/kg wet | 2.000 | | 69 | 40-140 | 9 | 30 | |
| Phenanthrene | 1.73 | 0.40 | mg/kg wet | 2.000 | | 86 | 40-140 | 10 | 30 | |
| Pyrene | 1.76 | 0.40 | mg/kg wet | 2.000 | | 88 | 40-140 | 12 | 30 | |
| <i>Surrogate: 2-Bromonaphthalene</i> | <i>1.94</i> | | mg/kg wet | <i>2.000</i> | | <i>97</i> | <i>40-140</i> | | | |
| <i>Surrogate: 2-Fluorobiphenyl</i> | <i>1.77</i> | | mg/kg wet | <i>2.000</i> | | <i>88</i> | <i>40-140</i> | | | |
| <i>Surrogate: O-Terphenyl</i> | <i>1.71</i> | | mg/kg wet | <i>2.000</i> | | <i>86</i> | <i>40-140</i> | | | |
| LCS Dup | | | | | | | | | | |
| 2-Methylnaphthalene Breakthrough | 0.0 | | % | | | | 0-5 | | 200 | |
| Naphthalene Breakthrough | 0.0 | | % | | | | 0-5 | | 200 | |



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 22B0195

Notes and Definitions

- U Analyte included in the analysis, but not detected
- H Estimated value. Sample hold times were exceeded (H).
- EL Elevated Method Reporting Limits due to sample matrix (EL).
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit
- MF Membrane Filtration
- MPN Most Probable Number
- TNTC Too numerous to Count
- CFU Colony Forming Units



CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond

Client Project ID: MEC - 131 Morse St Foxborough MA

ESS Laboratory Work Order: 22B0195

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tighe & Bond - KPB/TB

ESS Project ID: 22B0195

Shipped/Delivered Via: ESS Courier

Date Received: 2/7/2022

Project Due Date: 2/14/2022

Days for Project: 5 Day

- 1. Air bill manifest present? No
Air No.: NA
- 2. Were custody seals present? No
- 3. Is radiation count <100 CPM? Yes
- 4. Is a Cooler Present? Yes
Temp: 4.2 Iced with: Ice
- 5. Was COC signed and dated by client? Yes

- 6. Does COC match bottles? Yes
- 7. Is COC complete and correct? Yes
- 8. Were samples received intact? Yes
- 9. Were labs informed about short holds & rushes? Yes / No / NA
- 10. Were any analyses received outside of hold time? Yes / No

- 11. Any Subcontracting needed? Yes / No
ESS Sample IDs: _____
Analysis: _____
TAT: _____

- 12. Were VOAs received? Yes / No
a. Air bubbles in aqueous VOAs? Yes / No
b. Does methanol cover soil completely? Yes / No / NA

- 13. Are the samples properly preserved? Yes / No
a. If metals preserved upon receipt: Date: _____ Time: _____ By: _____
b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____

Sample Receiving Notes:

- 14. Was there a need to contact Project Manager? Yes / No
a. Was there a need to contact the client? Yes / No
Who was contacted? _____ Date: _____ Time: _____ By: _____

| Sample Number | Container ID | Proper Container | Air Bubbles Present | Sufficient Volume | Container Type | Preservative | Record pH (Cyanide and 608 Pesticides) |
|---------------|--------------|------------------|---------------------|-------------------|----------------|--------------|--|
| 1 | 255762 | Yes | N/A | Yes | 8 oz jar | NP | |

2nd Review

- Were all containers scanned into storage/lab? Initials KL
- Are barcode labels on correct containers? Yes / No
- Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
- Are all Hex Chrome stickers attached? Yes / No / NA
- Are all QC stickers attached? Yes / No / NA
- Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: [Signature] Date & Time: 2-7-22 1726
 Reviewed By: [Signature] Date & Time: 2-7-22 1727

Tighe&Bond

APPENDIX D

Project: Pad-Mounted Transformer
 Location: 131 Morse Street, Foxborough MA
 Client: National Grid

Boring No. B-1/MW-1
 Page 1 of 1
 File No. N5067-084
 Checked by: _____

Drilling Co. Martin GeoEnvironmental
 Foreman: Jeremy Martin
 T&B Rep.: S. Marokhovsky
 Date Start: 12/29/21 End: 12/29/2021
 Location See Exploration Location Plan
 GS. Elev. Datum:

| | Casing | Sampler |
|----------------|----------|---------|
| Type | Macro | |
| I.D./O.D. | | |
| Length | 5" | |
| Rig Make/Model | GeoProbe | 6620DT |
| Other | | |

| Groundwater Readings | | | | |
|----------------------|------|-------|--------|------------|
| Date | Time | Depth | Casing | Sta. Time |
| 12/29/21 | 1200 | 2.23' | - | ~1.5 hours |
| 1/6/22 | 1050 | 2.18' | - | 8 days |
| | | | | |
| | | | | |

| Depth (ft.) | Sample No. Rec.(in) | Sample Depth (ft.) | Dexsil | Sample Description | General Stratigraphy | Notes | Well Construction |
|-------------|------------------------|--------------------|--------|--|----------------------|-------|--|
| | | | | | | | |
| 5 | S-1 | 0-1 | - | 0-1.5': Concrete and cobbles | FILL | 1 | <p>Riser 1' Bentonite 1' 2" PVC Screen Filter Sand</p> |
| | S-2 | 1-2 | - | 1.5-2.5': Tan, fine to coarse SAND, little Gravel, trace Silt, wet | | | |
| | S-3 | 2-3 | 17 | 2.5-5': Tan, fine to coarse SAND, some wood debris, little Gravel, trace Silt, wet | | | |
| | S-4 | 3-4 | | | | | |
| | S-5 | 4-5 | | | | | |
| 10 | S-6/36" | 5-10 | 0 | 5-10': Gray, fine to coarse SAND and GRAVEL, trace Silt, wet | | | |
| 10 | | | | End of Boring at 10 feet bgs | | | |
| 15 | | | | | | | |
| 20 | | | | | | | |
| 25 | | | | | | | |
| 30 | | | | | | | |

Notes:
 1. Pre-Cleared to 5' with vacuum excavation. Samples collected with hand auger.

| Proportions Used | |
|------------------|-----------|
| TRACE (TR.) | 0 - <10% |
| LITTLE (LI.) | 10 - <20% |
| SOME (SO.) | 20 - <35% |
| AND | 35 - <50% |

Project: Pad-Mounted Transformer
 Location: 131 Morse Street, Foxborough MA
 Client: National Grid

Boring No. B-2/MW-2
 Page 1 of 1
 File No. N5067-084
 Checked by: _____

Drilling Co. Martin GeoEnvironmental
 Foreman: Jeremy Martin
 T&B Rep.: S. Marokhovsky
 Date Start: 12/29/21 End: 12/29/2021
 Location See Exploration Location Plan
 GS. Elev. Datum:

Casing Macro
 Sampler _____
 Type _____
 I.D./O.D. _____
 Length 5"
 Rig Make/Model GeoProbe 6620DT
 Other _____

| Groundwater Readings | | | | |
|----------------------|------|-------|--------|------------|
| Date | Time | Depth | Casing | Sta. Time |
| 12/29/21 | 1200 | 3.63' | - | ~2.5 hours |
| 1/6/22 | 1145 | 3.73' | - | 8 days |
| | | | | |
| | | | | |

| Depth (ft.) | Sample No. Rec.(in) | Sample Depth (ft.) | Dexsil | Sample Description | General Stratigraphy | Notes | Well Construction | | |
|-------------|------------------------|------------------------------|--------|---|----------------------|-------|---|---------------|-------------|
| | | | | | | | Riser | Bentonite | |
| 5 | S-1 | 0-1 | - | 0-2.5': Imported processed gravel (backfill from previous soil excavation) and concrete pieces | FILL | 1 | 1' | 1' | |
| | S-2 | 1-2 | - | 2.5-5': Brown, fine to coarse SAND, some Gravel, trace Silt, damp, faint petroleum-like and organic odors noted | | | 2 | 2" PVC Screen | Filter Sand |
| | S-3 | 2-3 | 47 | | | | | | |
| | S-4 | 3-4 | | | | | | | |
| | S-5 | 4-5 | 97 | | | | | | |
| | S-6/40" | 5-7 | | 7 | | | 7-10': Tan, fine to coarse SAND, some Gravel, trace Silt, wet | | |
| 7-10 | | End of boring at 10 feet bgs | | | | | | | |
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Notes:
 1. Pre-Cleared to 5' with vacuum excavation. Samples collected with hand auger.
 2. Soil appears to have a faint sheen.

| Proportions Used | |
|------------------|-----------|
| TRACE (TR.) | 0 - <10% |
| LITTLE (LI.) | 10 - <20% |
| SOME (SO.) | 20 - <35% |
| AND | 35 - <50% |

Project: Pad-Mounted Transformer
 Location: 131 Morse Street, Foxborough MA
 Client: National Grid

Boring No. B-3/MW-3

Page 1 of 1

File No. N5067-084

Checked by: _____

Drilling Co. Martin GeoEnvironmental
 Foreman: Jeremy Martin
 T&B Rep.: S. Marokhovsky
 Date Start: 12/29/21 End: 12/29/2021
 Location See Exploration Location Plan
 GS. Elev. Datum:

| | | |
|----------------|----------|---------|
| | Casing | Sampler |
| Type | Macro | |
| I.D./O.D. | | |
| Length | 5" | |
| Rig Make/Model | GeoProbe | 6620DT |
| Other | | |

| Groundwater Readings | | | | |
|----------------------|------|-------|--------|-------------|
| Date | Time | Depth | Casing | Sta. Time |
| 12/29/21 | 1200 | 3.59' | - | ~30 minutes |
| 1/6/22 | 1310 | 3.60' | - | 8 days |
| | | | | |
| | | | | |

| Depth (ft.) | Sample No. Rec.(in) | Sample Depth (ft.) | Dexsil | Sample Description | General Stratigraphy | Notes | Well Construction | |
|-------------|------------------------|--------------------|--------|--|----------------------|-------|-------------------|--------------|
| | | | | | | | Riser | Bentonite |
| 5 | S-1 | 0-1 | - | 0-2.5': Concrete and cobbles | FILL | 1 | 2" PVC Screen | Bentonite 1' |
| | S-2 | 1-2 | - | 2.5-5': Brown, fine to coarse SAND and GRAVEL, trace Silt, wet | | | | |
| | S-3 | 2-3 | 161 | 5-7': Black, fine to coarse SAND, some Gravel, trace Silt, wet, faint petroleum-like and organic odors | | | | |
| | S-4 | 3-4 | | | | | | |
| | S-5 | 4-5 | 637 | 7-10': Tan, fine to coarse SAND, some Gravel, trace Silt, wet | | | | |
| S-6/40" | 5-7 | | | | | | | |
| 10 | | 7-10 | 116 | | | | | |
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Notes:
 1. Pre-Cleared to 5' with vacuum excavation. Soil samples collected with hand auger.

| Proportions Used | |
|------------------|-----------|
| TRACE (TR.) | 0 - <10% |
| LITTLE (LI.) | 10 - <20% |
| SOME (SO.) | 20 - <35% |
| AND | 35 - <50% |

Tighe&Bond

APPENDIX E

N5067-084
March 1, 2022

VIA CERTIFIED US MAIL

Mr. William Keegan, Jr.
Town Manager
40 South Street
Foxborough, Massachusetts 02035

**Re: Public Notification of Phase I Initial Site Investigation
and Tier Classification Submittal**

Massachusetts Electric Company d/b/a National Grid
131 Morse Street
Foxborough, Massachusetts
RTN 4-0028528

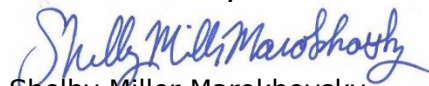
Dear Mr. Keegan:

In accordance with the Public Notification procedures of the Massachusetts Contingency Plan (MCP) 310 CMR 40.1403, Tighe & Bond, on behalf of Massachusetts Electric Company d/b/a National Grid (MEC), is notifying you of the submittal of a Phase I Initial Site Investigation (Phase I ISI) and Tier II Classification to the Massachusetts Department of Environmental Protection (MassDEP) for the above-referenced site. Pursuant to 310 CMR 40.1403(3)(e), a summary of findings and statement of conclusions of the Phase I report is attached.

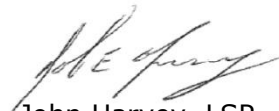
A copy of the Phase I Initial Site Investigation and Tier Classification submittal can be accessed at the following web address <https://eeaonline.eea.state.ma.us/portal#!/search/wastesite> by entering Release Tracking Number (RTN) 4-0028528 or by contacting the MassDEP Southeast Regional Office. For more information on public involvement opportunities, please refer to 310 CMR 40.1403(9) and 40.1404 of the MCP. Pursuant to 310 CMR 40.1403(6)(a), a public notice indicating the Tier Classification of the Disposal Site will be published in a newspaper of local circulation within seven days. A copy of the public notice and a copy of the disposal site map are attached.

Please note, this notice is for informational purposes and no activity or response is necessary on your part. If you have any questions regarding this correspondence, please feel free to contact the undersigned at (401) 455-4306 or (781) 708-9820.

Very truly yours,

TIGHE & BOND, INC.

Shelby Miller Marokhovsky
Project Environmental Scientist



John Harvey, LSP
Project Manager

Enclosures: Phase I ISI Site Plan
Phase I Summary of Findings
Copy of Legal Notice

CC: Mr. Matthew Brennan, R.S., Director of Public Health – Foxborough Health Department
Ms. Deborah Blanch, Massachusetts Electric Company d/b/a National Grid



Phase I Summary of Findings and Statement of Conclusions

131 Morse Street, Foxborough, MA

RTN 4-28528

On behalf of MEC, Tighe & Bond has prepared this Phase I Initial Site Investigation Report and Tier Classification for a sudden release of non-polychlorinated biphenyl mineral oil dielectric fluid that occurred at the Disposal Site. The Disposal Site is located in the central portion of the mill complex identified as 131 Morse Street in Foxborough, Massachusetts. Based upon a review of site conditions with respect to the criteria set forth in the MCP, 310 CMR 40.0500, the Tier I inclusionary criteria have not been met. Therefore, the Site is classified as a Tier II Disposal Site.

In accordance with 310 CMR 40.0486, the following outcomes are possible at the completion of a Phase I ISI Report:

- The requirements of a Permanent Solution have been met, pursuant to 310 CMR 40.1000, and a Permanent Solution Statement is submitted to MassDEP; or
- Comprehensive Response Actions (CRAs) are necessary at the Disposal Site. Tier classification of the Disposal Site must be completed prior to the completion of CRAs.

The nature and extent of potential groundwater contamination at the Disposal Site is under review by Tighe & Bond to determine whether groundwater conditions have been adequately defined to meet the requirements of a Permanent Solution. Additionally, structural impediments, including the presence of the adjacent building and the underlying sluiceway have limited the ability to conduct additional soil removal activities. A risk assessment of the soil contamination remaining at the Disposal Site is required to determine whether the requirements of a Permanent Solution have been met as current site conditions do not represent a condition of No Significant Risk pursuant to 310 CMR 40.0900. Additional investigation activities may be necessary to complete the CSM, delineate the nature and extent of oil and/or hazardous material in soil and groundwater, and support an evaluation of risk associated with the Disposal Site.

NOTICE OF TIER CLASSIFICATION
MASSACHUSETTS ELECTRIC COMPANY D/B/A NATIONAL GRID
131 MORSE STREET, FOXBOROUGH, MASSACHUSETTS
RELEASE TRACKING NUMBER 4-0028528

A release of oil and/or hazardous materials has occurred at this location, which is a disposal site as defined by M.G.L. c. 21E, § 2 and the Massachusetts Contingency Plan, 310 CMR 40.0000. To evaluate the release, a Phase I Initial Site Investigation was performed pursuant to 310 CMR 40.0480. The site has been classified as TIER II pursuant to 310 CMR 40.0500. On February 28, 2022, Massachusetts Electric Company d/b/a National Grid filed a TIER II Classification Submittal with the Department of Environmental Protection (MassDEP). To obtain more information on this disposal site, please contact Deborah Blanch, of National Grid, at (508) 897-5520, or John Harvey, Licensed Site Professional, of Tighe & Bond, Inc. at (781) 708-9820, One University Avenue, Suite 100, Westwood, MA 02090. The Tier Classification Submittal and the disposal site file can be viewed at MassDEP website using Release Tracking Number (RTN) 4-0028528 <https://eeaonline.eea.state.ma.us/portal#!/search/wastesite> or at Southeast Regional Office, 20 Lakeside Drive, Lakeville, MA (508-946-2700). Additional public involvement opportunities are available under 310 CMR 40.1403(9) and 310 CMR 40.1404.

Tighe&Bond

APPENDIX F

1. This report has been prepared on behalf of and for the exclusive use of the Client and is subject to and issued in accordance with the Agreement and the provisions thereof. Documents provided on this project shall not, in whole or in part, be disseminated or conveyed to any other party, nor used by any other party without the prior written consent of Tighe & Bond. Reuse of documents by Client or others without Tighe & Bond's written permission and mutual agreement shall be at the user's sole risk, without liability on Tighe & Bond's part and Client agrees to indemnify and hold Tighe & Bond harmless from all claims, damages, and expenses, including attorney's fees, arising out of such unauthorized use or reuse.
2. Tighe & Bond acknowledges and agrees that, subject to the Limitations set forth herein and prior written approval by Tighe & Bond, this report may be provided to specific financial institutions, attorneys, title insurers, lessees and/or governmental agencies identified by Client at or about the time of issuance of the report in connection with the conveyance, mortgaging, leasing, or similar transaction involving the real property which is the subject matter of a report and any work product. Use of this report for any purpose by any persons, firm, entity, or governmental agency shall be deemed acceptance of the restrictions and conditions contained therein, these Limitations and the provisions of Tighe & Bond's Agreement with Client. No warranty, express or implied, is made by way of Tighe & Bond's performance of services or providing an environmental site assessment, including but not limited to any warranty with the contents of a report or with any and all work product.
3. Tighe & Bond performed the subsurface investigation in accordance with our Agreement (including any stated scope and schedule limitations) and used the degree of care and skill ordinarily exercised under similar circumstances by members of the profession practicing in the same or similar locality. The objective of a subsurface investigation is to evaluate the presence or absence of contamination. Where access was denied or conditions obscured, Tighe & Bond provides no opinion or report on such areas. The subsurface investigation may not identify all contaminated media as our scope may be limited to certain locations within a site or due to geologic variability, contamination variability, seasonal conditions, obstructions such as buildings, utilities, or other site features and/or other unknown conditions. Tighe & Bond performed the subsurface investigation using reasonable methods to access and identify the presence of contaminated media. Therefore, additional contaminated media may be present at the site and may be discovered during development and site work, so an appropriate cost contingency should be carried by the Client based on their risk tolerance. Tighe & Bond also makes no opinion or report of contamination that may have migrated off site unless off-site investigations are specifically including in the scope of services.
4. Findings, observations, and conclusions presented in this report, including but not limited to the extent of any subsurface explorations or other tests performed by Tighe & Bond, are limited by the scope of services outlined in the Agreement, which may establish schedule and/or budgetary constraints for an environmental assessment or phase thereof. Furthermore, while it is anticipated that each assessment will be performed in accordance with generally accepted professional practices and applicable standards (such as ASTM, etc.) and applicable state and Federal regulations, as may be further described in the report and/or the Agreement, Tighe & Bond does not assume responsibility for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of its services.

5. In preparing this report, Tighe & Bond, Inc. may have relied on certain information provided by governmental agencies or personnel as well as information and/or representations provided by other persons, firms, or entities, and on information in the files of governmental agencies made available to Tighe & Bond at the time of the site assessment. To the extent that such information, representations, or files may be inaccurate, missing, incomplete or not provided to Tighe & Bond, Tighe & Bond is not responsible. Although there may be some degree of overlap in the information provided by these various sources, Tighe & Bond does not assume responsibility for independently verifying the accuracy, authenticity, or completeness of any and all information reviewed by or received from others during the course of the site assessment.
6. The assessment presented is based solely upon information obtained or received prior to issuance of the report. If additional environmental or other relevant information is developed at a later date, Client agrees to bring such information to the attention of Tighe & Bond promptly. Upon evaluation of such information, Tighe & Bond reserves the right to recommend modification of this report and its conclusions. In addition, dense forested areas on the site created some visual and access limitations during the site reconnaissance.
7. Emerging contaminants, including per- and poly-fluorinated alkyl substances (PFAS), are hazardous materials or mixtures (including naturally occurring or manmade chemical, microbial, or radiological substances) that are characterized by having a perceived or real threat to human health, public safety, or the environment for which there are no published health standards or guidelines and there is insufficient or limited available toxicological information or toxicity information that is evolving or being re-evaluated; or there is not significant new source, pathway, or detection limit information. The state of these compounds is constantly being updated and therefore, Tighe & Bond cannot be held liable for not including these compounds in the list of analytes that are analyzed when our services are performed. Unless otherwise specified, Tighe & Bond will only analyze for compounds ordinarily included under similar circumstances by members of the profession practicing in the same or similar locality. Tighe & Bond will not be liable for not including these or any other compounds in the list of target analytes if information regarding their use is not made available by current or former operators/owners at the facility being evaluated. We will also not be liable for not analyzing for the presence of an emerging contaminant, even if that compound is detected at a later date.
8. Tighe & Bond makes no guarantee or warranty that this report (if provided to a regulatory agency) will pass a regulatory audit/review. The Licensed Site Professional (LSP), Licensed Environmental Professional (LEP), Professional Geologist (PG), Professional Engineer (PE) or other relevant professional licensure and the applicable regulatory reviewing agency may have differences of opinion on aspects of (and approaches to) the assessment, remediation, risk evaluation or closure and the regulatory agency may request additional information, sampling data, analysis and/or remediation. Such differences of opinion will not be interpreted to imply that Tighe & Bond's services were not performed competently and in accordance with the standard of care. If additional investigations, response action evaluations, or discussions are needed following a regulatory audit/review, Tighe & Bond can provide these services under a separate Agreement.

9. If an Opinion of Probable Construction Costs (OPCC) is provided, Tighe & Bond has no control over the cost or availability of labor, equipment or materials, or over market conditions or the contractor's method of pricing, and that the opinion of probable costs is made on the basis of Tighe & Bond's professional judgment and experience is based on currently available information. Tighe & Bond makes no guarantee nor warranty, expressed or implied, that the actual costs of the construction work will not vary from the OPCC.



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